Installation, Operation and Configuration Instructions

PBXs

COMpact 3000 analog
COMpact 3000 ISDN
COMpact 3000 VoIP

Table of Contents

Important Information 18
Safety Information 19
Intended Use 22
Using Different Telephone Types 28
Technical Data 30
Copyright 34
Environmental Notice 35

Installing and Switching on the PBX 36
Preparation 37
Important Information on the Installation Site 37
Assembling the PBX (Use as Desktop Device) 38
Wall Mounting of the PBX 38
Removing the Cover Panel 39
Overview of the Connections and Other Device Components 40
Plugging in the Module 46
Network Provider 47
Connecting the Analog Connection Directly to the External Analog Port 49
Connecting an ISDN Connection (NT) Directly to the External S_0 Port 49
Connecting the Ethernet Port with the Internet 50
Analog End Devices 53
Connecting Analog End Devices Directly to the Internal a/b Port 53
Installing Cables and Wall Sockets at the Internal a/b Port 55
ISDN End Devices 57
Connecting ISDN End Devices Directly to the Internal S_0 Port 57
Available Bus Variants for the Installation of an Internal S_0 Bus 58
Connecting the Cable and the Wall Sockets to the Internal S_0 Port (Internal S_0 Bus) 61
Connecting ISDN End Devices Directly to the internal U_{P0} Port 63
Connecting the Cable and the Wall Sockets to the Internal U_{P0} Port 64
VoIP End Devices 67
Connecting VoIP End Devices to the Ethernet Port 67
Printers and Storage Media 69
Connecting the USB Printer and Storage Media to the USB Host 69
Inserting the SD Memory Card 70

Commissioning ... 71
Turning on the PBX ... 71
Connecting the PC ... 72
Putting Standard ISDN End Devices into Operation ... 73
Putting ISDN System Telephones into Operation ... 74
Putting VoIP End Devices into Operation ... 74
Putting VoIP System Telephones into Operation ... 74

Using the Configuration Manager ... 76

Configuration Manager ... 77
Minimum Requirements for the PC for Using the Configuration Manager ... 77
Opening the Configuration Manager ... 77
Operating Instructions for the Configuration Manager ... 80
Selecting the Language ... 85
Configuring the Portal Page ... 85
Switching Between Standard and Expert Views ... 86
Using the Configuration Wizard ... 87
Configuring the Port on the Web Server ... 88
Configuring the Maximum Number of Simultaneously Logged-in Users ... 88
Configuring the Time Lapse for Forced Logout ... 89

Help ... 90
Opening Help ... 90
Navigating in the Help Window ... 90
Searching in Help ... 93
Printing from within the Help ... 94
Icons in the Help Window ... 94

Telephoning ... 95

Incoming Calls ... 96
Accepting Incoming Calls ... 96

Call Waiting Calls ... 97
Options During a Call Waiting Call ... 97
Rejecting a Call Waiting Call ... 97
Accepting the Call Waiting Call ... 98
Disconnecting the Current Call and Accepting the Call Waiting Call ... 99

Outgoing Calls ... 100
Options for Outgoing Calls ... 100
Initiating an Internal Call ... 101
Initiating an External Call ... 101

Initiating External Calls with Number Presentation Suppression ... 101
Dialling a Telephone Number on Direct Exchange Line Access ... 102
Options for Unsuccessful Calls ... 102
Initiating Internal Callback on Busy ... 103
Initiating External Callback on Busy ... 104
Deleting Callback on Busy ... 105
Initiating Reservation of Exchange Line on Busy ... 106
Initiating Internal Callback on No Response ... 106
Initiating External Callback on No Response ... 107
Initiating Priority Call for Do-Not-Disturb ... 108
Terminating a Query Call ... 108
Query Calls ... 109
Initiating a Query Call ... 109
Options during a Query Call ... 110
Splitting ... 110
Terminating One of the Two Calls ... 111
Connecting Both Communication Partners ... 112
Initiating a Query Call to Third Subscriber ... 112
Transfer ... 114
Options for Transferring a Call ... 114
Transferring with Announcement ... 115
Transferring without Announcement ... 116
Placing External Communication Partner in Waiting Loop ... 116
Calling a Third Subscriber and Transferring to an Active Communication Partner ... 117
Conference Calls ... 119
Initiating Conference Calls ... 119
Options during a Conference Call ... 119
Initiating Splitting during a Conference Call ... 120
Connecting Both Conference Call Partners ... 121
Ending Conference Call ... 121

Managing the Telephone Book and Lists ... 122

Telephone Book ... 123
Short-code Numbers ... 123
Opening the Telephone Book ... 123
Dialling from the Telephone Book ... 124
Creating Entries ... 124
Importing the Telephone Book ... 126
Exporting the Telephone Book ... 127

Overview of the Telephone Book Entries ... 127
Call Data ... 128
Contents of the Call Data Set ... 128
Opening the Call Data List ... 128
Columns on the Call Data List ... 129
Exporting the Call Data List ... 134
Deleting Call Data ... 135
Dialling from the Call Data List (Soft Call) ... 135
Configuring the Display ... 136
Switching Automatic Memory Overwriting On/Off ... 137
Switching the Special Dial Tone On/Off when Call Data Memory Full ... 137
Configuring Calls to be Recorded for the Call Data List ... 138
Switching Partial Telephone Number Privacy for Private Calls On/Off ... 139
Configuring a Currency Name ... 140
Configuring the Cost per Call Unit ... 141
Configuring the Billing Factor ... 142
Switching Charge Information On/Off ... 142
Deleting the List of Single Call Records ... 143
Switching Authorization for Deleting Single Call Records On/Off ... 144

Managing Voice Mailboxes and Fax Boxes ... 145
Memory Management for the Voice Mail and Fax Function ... 146
Voice Mailbox ... 147
Configuring a Voice Mailbox ... 147
Creating a Voice Mailbox ... 148
Switching a Voice Mailbox On/Off ... 148
Selecting an Announcement for the Voice Mailbox ... 152
Recording, Saving, Listening to and Deleting an Announcement for Voice Mailboxes ... 152
Switching Message Recording On/Off ... 158
Configuring the Maximum Recording Time per Call ... 159
Configuring the Maximum Recording Time for One Voice Mailbox ... 160
Configuring the Maximum Recording Time for All Voice Mailboxes ... 160
Switching Automatic Cleanup for a Voice Mailbox On/Off ... 161
Querying the Voice Mailbox ... 162
Executing Remote Access ... 164
Configuring the PIN for Remote Access ... 165
Switching the Info Call On/Off ... 166
Importing Language Files ... 167

Fax Box 168
Creating a Fax Box 168
Switching the Fax Box On/Off 169
Entering a Fax ID 170
Switching Automatic Cleanup for a Fax Box On/Off 171
Querying the Fax Box 171
Fax Transfer 173
Switching ECM (Error Correction Mode) for Fax Transmission On/Off 176
RSS Feed 177
Configuring RSS Feeds 177
Switching RSS Feeds On/Off 177
Assigning Topics for RSS Feeds 178
Subscribing to an RSS Feed 180
E-mail 181
Switching E-mail Message Sending On/Off 181
Configuring the Outgoing Mail Server 182

Configuring and Operating Functions 185
Baby Call 187
Switching Baby Call On/Off 187
Boss/Secretary Function 189
Configuring the Boss/Secretary Function 189
Busy on Busy 190
Switching Busy on Busy On/Off 190
Call Deblocker (Incoming) – VIP Numbers 191
Switching the Call Deblocker (Incoming) On/Off 191
Creating a Call Deblocker (Incoming) 192
Overview of Configured Call Deblockers (Incoming) 193
Call Deblocker (Outgoing) – Release Codes 194
Switching the Call Deblocker (outgoing) On/Off 194
Creating a Call Deblocker (Outgoing) 195
Overview of Configured Call Deblocker (Outgoing) 196
Call Forwarding 197
Call Forwarding for External Numbers 197
Kinds of Call Forwarding 197
Switching Call Forwarding for External Numbers On/Off 198
Switching Authorization for Configuring Features on the Exchange Line On/Off 202
Configuring the Use of the Feature via the PBX or the Network Provider 203

Switching the Use of Any Available Call Channels On/Off 204
Configuring the Delay Time for Call Forwarding for External Numbers on No Reply 205
Overview of Call Forwarding for External Numbers 206
Call Parking 207
Sequence of Call Parking 207
Parking the Call Internally 207
Unparking the Call 208
Unparking a Second Call During a Call 208
Switching Authorization for Call Parking On/Off 209
Configuring the Internal Base Telephone Number for the Parking Zone 209
Configuring Hold Time 211
Call Restrictor (Incoming) – Robinson Numbers 212
Switching the Call Restrictor (Incoming) On/Off 212
Creating a Call Restrictor (Incoming) 213
Overview of Configured Call Restrictors (Incoming) 214
Call Restrictor (outgoing) – Restricted Numbers 215
Switching the Call Restrictor (Outgoing) On/Off 215
Creating a Call Restrictor (Outgoing) 216
Overview of Configured Call Restrictors (Outgoing) 217
Call Through 218
The Call Through Sequence 218
Configuring Call Through 218
Switching LCR for Call Through Calls On/Off 219
Configuring the Maximum Duration for External Call Through Calls 219
Configuring the Exchange Line Settings for Call Through Calls 220
Configuring Call Assignments 221
Creating Call Through Users 221
Call Waiting 223
Switching Call Waiting On/Off 223
CLIP Texts 224
Configuring CLIP Texts 224
Configuration Switchover 226
Configuration-dependent Functions 226
Carrying out a Configuration Switchover Manually 226
Switching Authorization for Configuration Switching On/Off 228
Creating Configurations 229
Copying Configurations 229
Switching Automatic Configuration Switchover On/Off 231

Creating Switching Times for Switching the Configuration ... 232
Copying Switching Times ... 233
Overview of the Configured Switching Times ... 234
Do-not-disturb ... 235
Switching the Do-not-Disturb Function On/Off ... 235
Energy Savings Function (Economy Mode) ... 237
Switching Energy Savings Function (Economy Mode) On/Off ... 237
Exchange Line Authorization ... 238
Configuring Exchange Line Authorization ... 238
Exchange Line Transfer ... 240
Exchange Line Transfer Sequence ... 240
Configuring an Exchange Line Transfer ... 240
Configuring the Exchange Line Settings for Exchange Line Access to be Transferred ... 241
Switching the Callback Option On/Off ... 242
Configuring Subscribers for the Charge Burden ... 243
Configuring the Time Limit for Initiating an External Call ... 243
InterCom Announcement/Handsfree ... 245
InterCom Announcement / InterCom Handsfree Procedure ... 245
Initiating InterCom Announcement/Handsfree ... 245
Switching InterCom Permission On/Off ... 246
LAN-TAPI ... 247
LAN-TAPI Functions ... 247
Configuring Subscribers for LAN-TAPI ... 247
Configuring the Network Port on the TAPI Server ... 248
Configuring the Password for the Network Connection on the TAPI Server ... 248
Installing TAPI driver (TSP) ... 249
Restarting the TAPI Server ... 250
Checking the Function of the LAN-TAPI ... 250
LCR ... 254
LCR Sequence ... 254
Configuring LCR ... 254
Switching LCR on the External Connection On/Off ... 255
Configuring Subscribers for LCR ... 256
Importing the LCR Configuration (Providers, Tariff Groups and Data) ... 257
Creating Providers ... 257
Creating Default Networks Based on a Provider Area Code ... 258
Creating Networks Manually ... 259
Creating Prefixes for Networks Manually ... 260

Creating Tariff Information for Networks 261
Reading the LCR Configuration from the PBX 264
Multi-path Call Forwarding 265
Switching Multi-path Call Forwarding On/Off 265
Music on Hold and Announcement 268
Configuring Music on Hold or Restoring Default Music on Hold 268
Recording and Configuring the Announcement for Music on Hold 271
Listening to and Switching the Announcement for Music on Hold On/Off 274
Configuring a Pause between Announcements 275
Switching Music on Hold in the Call Phase On/Off 276
Network Memory 277
Configuring the Network Memory 277
Accessing the Network Memory via FTP 278
Network Printer 279
Adding a Printer 279
Number Presentation 283
Configuring Number Presentation 283
Online Name Search 285
More Information on the Online Name Search 285
Switching Online Name Search On/Off 285
Configuring an Exact or Approximate Search 286
Initiating a Service Provider Update 287
Pickup 288
Executing Pickup 288
Picking up during a Call 289
Switching Authorization for Pickup On/Off 289
Switching Call Pickup On/Off 290
Carrying out a Call Pickup 291
Private (Personalized) Exchange Line Access 292
Various Configurable Functions for Personal and Business Calls 292
Initiating Private Exchange Line Access 292
Initiating Private Exchange Line Access without a PIN 293
Switching Authorization for Private Exchange Line Access without PIN Entry On/Off 293
Room Monitoring 295
Switching Room Monitoring On 295
Carrying out Room Monitoring 295
Switching Room Monitoring Off 297

Configuring the External PIN ... 297
Configuring the Remote Switching Number ... 299
Short-code Authorization ... 300
Switching Short-code Dialling Number Authority On/Off ... 300
Soft Call ... 301
Dialling External Telephone Numbers via the Portal Page ... 301
Targeted Exchange Line Access ... 302
Initiating Targeted Exchange Line Access ... 302
Targeted VoIP Access Point ... 303
Initiating Targeted VoIP Access ... 303
Telephone Number Display (CLIP) ... 305
Switching CLIP Information On/Off ... 305
Switching Extended CLIP Information On/Off ... 306
Switching CLIP Restriction Time On/Off ... 307
Time and Call Allowance Account ... 308
Configuring an Account Type ... 308
Configuring Credit for a Time Account ... 309
Configuring Maximum Credit for Time Accounts ... 311
Configuring Credit for a Call Allowance Account ... 311
Configuring Maximum Credit for Call Allowance Accounts ... 314
Configuring the Type of Call Used for Account Debiting ... 315
Switching Recording Changes for Account Debit during Transfers On/Off ... 316
VoIP/GSM Routing ... 317
VoIP/GSM Routing Sequence ... 317
Entering Exception Telephone Numbers ... 317
Switching Routing for CF via Exception Telephone Numbers On/Off ... 319
Importing Exception Telephone Numbers ... 320
Exporting Exception Telephone Numbers ... 321
Wake-up Functions ... 322
Switching Wake-up On/Off ... 322
Overview of the Wake-up Times ... 325
Switching Wake-up on Holidays On/Off ... 325
Configuring the Maximum Number of Wake-up Calls ... 326
Configuring the Call Duration of a Wake-up Call ... 327
Configuring a Pause between Wake-up Calls ... 327
Switching the Recording of Wake-up Calls in the Call Data Base On/Off ... 328
Recording, Saving and Listening to Wake-up Announcements ... 328

Creating Switching Times for Switching the Wake-up Announcement 333
X.31 335
Switching X.31 On/Off 335

Configuring and Managing the PBX 336
Identification 337
Switching the DHCP Client On/Off 337
Configuring the IP Address on the PBX 338
Configuring the Subnet Mask 340
Configuring the Gateway 341
Configuring the Country Prefix 343
Configuring the Local Area Code 344
Internet Access 345
Configuring the DNS Server 345
Configuring the HTTP Proxy 346
Switching Increased Protection against Cross-Site Scripting (XSS) On/Off 347
Internal Telephone Numbers 348
Possible Types of Internal Telephone Numbers 348
More Information about the Internal Telephone Number Plan 348
Creating Analog Subscribers 349
Creating ISDN Subscribers 351
Creating VoIP Subscribers 353
Creating Notes for Internal Subscribers 355
Overview of the Subscribers 356
Creating Line Groups 356
Assigning Subscribers to a Line Group 358
Group Overview 358
Overview of Internal Telephone Numbers 359
Analog Connection 360
Entering the Name for the Analog Connection 360
Entering Telephone Numbers 361
Overview of External Telephone Numbers 362
More Information on Country-specific Settings 362
Applying Country-specific Default Settings 362
Configuring Flash Time 363
Configuring Line Impedance 364
Configuring the Reception Amplification 365
Configuring Transmission Amplification 366

Switching Waiting for Dial Tone for a Line Connection On/Off ... 366
Configuring the Waiting Time for the Line Connection ... 367
Switching Line Access Code Transmission On/Off ... 368
Switching Line Access Code Detection On/Off ... 369
Switching Loop Current Detection for Line Connection On/Off ... 370
Configuring Delay Time after Last Digit Dialled ... 371
Switching Pound Sign Transmission On/Off ... 372
Switching Busy Tone Detection for Call Start On/Off ... 373
Switching Line Polarity Reversal Detection for Start of Call On/Off ... 374
Configuring Maximum Hold Time before Establishing Audio Connection ... 375
Switching Busy Tone Detection (Incoming) for End of Call On/Off ... 375
Switching Busy Tone Detection (Outgoing) for End of Call On/Off ... 377
Switching Continuous Tone Detection at End of Call On/Off ... 378
Switching Loop Current Detection at End of Call On/Off ... 378
Switching DTMF Code Detection at End of Call On/Off ... 379
Switching Line Polarity Reversal Detection for End of Call On/Off ... 380
Configuring the Type of CLIP Information ... 381
Configuring the CLIP Sub-version ... 381
Configuring CLIP Amplification ... 382
Configuring Control Commands ... 383
Configuring Tones ... 384
Configuring the Ringer Frequency ... 385

ISDN Connection ... 387
Configuring the Connection Type for the ISDN Connection ... 387
Switching S_0 Bus Monitoring On/Off ... 388
Entering the Name for the ISDN Connection ... 389
Entering Telephone Numbers for the ISDN Point-to-Multipoint Connection ... 390
Entering Telephone Numbers for the ISDN Point-to-Point Connection ... 391
Overview of External Telephone Numbers ... 393

VoIP ... 394
Configuring VoIP Channel Use ... 394
Sequence of an External Call via VoIP ... 395
Configuring External Internet Telephony ... 396
Configuring Internal IP Telephony ... 397
Configuring External Private Branch Exchanges ... 398
Configuring the STUN Server for Operation as an External Private Branch Exchange ... 399
Internal VoIP Subscriber Status Overview ... 400
Switching DiffServ On/Off ... 401
VoIP Provider ... 402

Restoring Default Providers ... 402
Importing VoIP Providers ... 403
Creating a VoIP provider ... 404
Switching Sub-system Operation On/Off ... 405
Configuring a Domain ... 405
Configuring the Registrar ... 406
Configuring Registration Time ... 407
Configuring NAT Traversal and the STUN Server ... 407
Configuring the Outbound Proxy ... 409
Configuring the Interval for NAT Keep Alive ... 410
Configuring the SIP Transport Protocol ... 411
Configuring the SIP Port ... 412
Configuring the SIP Session Timer ... 412
Switching En-bloc Dialling On/Off ... 413
Configuring the Jitter Buffer Value ... 414
Switching Echo Cancellation On/Off ... 415
Switching T.38 for Fax over IP On/Off ... 416
Configuring Codecs ... 417
Configuring the Number Presentation (Outgoing) ... 419
Configuring the Conversion of Incoming VoIP Telephone Numbers ... 422
Exporting VoIP Providers ... 423
Deleting VoIP Providers ... 423
VoIP Account ... 424
Creating a VoIP Account ... 424
Switching VoIP Account Usage On/Off ... 425
Configuring the Exchange Line Access Number (Account Number) ... 426
Configuring a User Name and Password ... 427
Configuring the Authorization ID ... 429
Configuring the Connection Type for the VoIP Account ... 429
Entering Telephone Numbers for the VoIP Point-to-Multipoint Connection ... 431
Entering Telephone Numbers for the VoIP Point-to-Point Connection ... 432
External Telephone Number Overview ... 434
Deleting a VoIP Account ... 434
VoIP Account Status Overview ... 435
DECT System Telephones ... 438
Switching the Log-in Mode over the Base Station On via the Configuration Manager ... 438
Assigning Internal Telephone Numbers to Mobile Handsets ... 439
Logging Mobile Handsets Off via the Configuration Manager ... 440
Configuring the Function Key for PBX Functions via the Configuration Manager ... 441

Copying a Function Key Assignment into Other Mobile Handsets 442
Transferring Telephone Numbers from the PBX Telephone Book into the Telephone Book on a DECT System Telephone 444
Copying a Telephone Book Selection into Other Mobile Handsets 444
GSM Gateway 446
Configuring a Connection for Using a GSM Gateway 446
Call Distribution 448
Call Distribution Groups 448
Creating Call Distribution 448
Configuring the Fax Switch 452
Overview of the Call Distribution 453
Emergency Call 454
Switching the Emergency Call Priority Switch On/Off 454
Creating Emergency Numbers 455
PBX Time 457
Configuring PBX Time (Time and Date) Manually 457
Switching the Automatic Updating of the PBX Time On/Off via the Network 460
Switching Automatic Updating of the PBX Time after Each ISDN Call On/Off 460
Switching Automatic PBX Time Updates via ISDN for Missing Time On/Off 461
Calendar 463
Adding Holidays from Holiday Lists 463
Creating and Editing Holidays 463
Importing Holidays 465
Exporting Holidays 465
Overview of Holidays 466
Tones 467
Presenting the Tones 468
Configuring the Internal Dial Tone 468
Switching the Busy Tone for the End of Call On/Off 469
Ringer Rhythms 470
Ringer Rhythm Display 470
Call Differentiation via Ringer Rhythms 470
Configuring a Ringer Rhythm for Internal Calls 471
Configuring a Ringer Rhythm for External Calls via the Analog Connection 471
Configuring a Ringer Rhythm for External Calls via the Point-to-Multipoint Connection 472
Configuring a Ringer Rhythm for External Calls via the Point-to-Point Connection 474
Configuring the Ringer Frequency 475

Protection from Unauthorized Access 476
Access Authorization 476
Configuring the Admin PIN and Admin User Name 477
Configuring User PINs 478
Configuring Sub-admin PINs 478
Changing the PIN 480
Switching Authorization for Controlling the PBX On/Off 481
Exchange Line Access 482
Switching Direct Exchange Line Access On/Off 482
Configuring the Exchange Line Access Number 483
Transfer and Callback 484
Configuring Hook Flash Timing 484
Switching the Authorization for External Call Transfer Externally On/Off 485
Configuring the Maximum Duration of Transferred Calls (External to External) 486
Switching the CCBS Option for External Callers On/Off 486
Switching the CCNR Option for External Callers On/Off 487
PBX Data 489
Configuring the Country 489
Entering PBX Name and Description 489

Service and Maintenance 491

Status Displays 492
Status Displays on the LEDs 492
Status Displays via the Configuration Manager 494
Restart 496
Variants of Restart 496
Causes of an Automatic Restart 497
Performing a Restart 497
Performing a Restart Due to Errors via the SD Card 499
Firmware Update 500
Firmware Update Variants 500
Initiating a Manual Firmware Update 500
Initiating an Instant Firmware Update via the Update Server 501
Configuring the Update Server Address 502
Replacing Defective Firmware 502
Starting the PBX with Alternate Firmware 504
Backing Up and Recovering Configuration Data 505
Variants for Backing Up and Recovering Configuration Data 505

Saving Configuration Data from the PC/Data Storage Medium in the PBX 506
Saving Configuration Data for Automatically Loading onto a Data Storage Medium 508
Saving Configuration Data for Automatically Loading from the Data Storage Medium in the PBX 508
Saving Configuration Data on the PC 509
Inserting a Restoration Point for Configuration Data 510
Restoring Configuration Data from a Restoration Point 511
Resetting the Configuration 512
Remote Configuration and Alternative Connection Options 513
Possible Connection Options for Configuring the PBX and the Connected ISDN System Telephones 513
Configuring the PBX Remotely via the Internet (Externally) 514
Configuring the PBX via an Internal S_0 Port (PPP Internal) 515
Configuring the PBX Remotely via an External S_0 Port (PPP External) 517
Configuring ISDN System Telephones via the PBX (Internal) 519
Configuring ISDN System Telephones Remotely via the External S_0 Port on the PBX (Externally) 521
Configuring Local and Remote IP Addresses 523
Configuring the External PIN 524
Configuring the Remote Switching Number 526
Configuring the Remote Switching Number for System Telephones 527
Configuring the Configuration Port for System Telephones 528
Configuring Internal CAPI Dial-in Numbers 528
Configuring Dealer Access Numbers 529
Configuring a Dial-up Connection on the PC 530
Release the PBX for Remote Configuration 534
Factory Settings 535
Restore Factory Settings 535
Powering Down 537
Powering the PBX Down 537
Ejecting a Storage Medium 538
Expanding the PBX 539
Purchasing and Activating Additional Software Expansions 539
Purchasing and Releasing Software Expansions in the Upgrade Center 539
Service Data 544
Recording the D-Channel Log 544
Log-in Tracking 545
Logging Registered Users Out 545

Creating a PBX Image 546
Logging the Network Data Stream 546

Short Operation Instructions 548

Telephoning 549

Settings 552

Glossary 556

Terminology and Functions 557
A 557
B 557
C 558
D 562
E 563
F 565
G 566
H 567
I 567
J 568
L 568
M 570
N 571
O 572
P 572
Q 574
R 574
S 575
T 577
U 579
V 580
W 581
X 582

Abbreviations 583

Index 586

Important Information

This section includes necessary information for operating your equipment safely. This includes general safety information, the intended use of the device, and the technical data.

Topics

– Safety Information (page 19)
– Intended Use (page 22)
– Using Different Telephone Types (page 28)
– Technical Data (page 30)
– Copyright (Seite 34)
– Environmental Notice (Seite 35)

Safety Information

Please observe the basic safety information given in the following.

Warning: Touching voltage-carrying conductors or telephone connections may cause a life-threatening electric shock.

- Remove the power plugs for both the PBX and all accessories from the power socket before you open the casing.
- If necessary, also disconnect the devices from auxiliary power sources (e. g. UPS).
- Remove the dark gray cover panel. Do not remove the light gray casing cover. This prevents accidental contact which may result in a shock from hazardous voltages. Make sure that any repairs requiring the casing cover to be removed are carried out by the manufacturer.
- Only mount the replaceable components (e. g. expansion modules) in a voltage-free state.
- Only operate the device when the casing is closed.
- For some installation and maintenance work, it is necessary to open the PBX while it is in operation. Close the casing after having finished the work.
- Make sure there is always adequate insulation if you touch voltage-carrying lines.
- Be sure to follow the relevant regulations when handling 230V system voltage and devices attached to the mains.

Warning: Inappropriate use or incorrect replacement of the power plug can result in a life-threatening electric shock or can damage or destroy or the device:

- For this reason, only use a power plug of type no. FW7577/EU/40.
- Make sure it is inserted firmly and securely into the power socket. Wobbly connectors or cable sockets pose a fire risk.
- Do not remove the power plug by pulling on the cable. If you would like to disconnect the power supply, pull the power plug itself.
- If the power plug is damaged, first unscrew the fuse for the power supply before pulling out the power plug.

Warning: Liquid entering the casing can cause life-threatening electric shocks or damage/destroy the PBX.

- Only operate PBX in closed, dry rooms.
- Only clean the device externally with a soft moist cloth or anti-static cloth.

Warning: Damaged connection lines as well as damage to the casing and to the PBX can cause life-threatening electrical shocks.

- Only connect the device connection cable with sockets that are designed for that purpose.
- Make sure that the Schuko socket for connecting the PBX is properly connected (according to VDE0100). The power socket must be located near the PBX and be freely accessible at all times.
- Replace damaged connection lines immediately.
- Always have a professional carry out repairs immediately. Please contact your dealer or the manufacturer directly.

Warning: Power surges, which can occur during electrical storms, can cause life-threatening electric shocks or damage/destroy the PBX.

- For this reason, do not open or mount the PBX during an electrical storm. Avoid disconnecting and connecting lines during an electrical storm.
- Lay all the cables inside the building.
- Protect the devices by installing overvoltage protection.

Caution: Unauthorized changes to the device can damage the PBX or breach security and EMC regulations. If security-relevant radio services are disturbed, the Federal Network Agency can order decommissioning the device according to §14, section 6, Electromagnetic Compatibility Act.

- Always have a professional carry out repairs. Please contact your dealer or the manufacturer directly.

Caution: Exceeding (even temporarily) the threshold values indicated in the technical data can damage or even destroy the PBX.

- Note the threshold values indicated in the technical data for voltage, electricity, performance, ambient temperature, and humidity.

Caution: Electrostatic charges can destroy sensitive components.

- Divert electrostatic charges from yourself before touching the electronic components with your hands or any tools. To do this, touch a metal object, preferably earthed, e. g. a heater or computer housing.

Important: Mechanical loads and electro-magnetic fields can impair PBX operation.

- Avoid mechanical loads (e. g. vibrations).
- Avoid proximity to devices that generate electro-magnetic fields or react sensitively to them (e. g. radio receivers, amateur radio sets, mobile phones, DECT systems, or similar).
- Do not expose the device to direct sunlight or condensation.
- Protect the device from an extreme amount of dust.
- Note the values for ambient temperature and humidity indicated in the technical data.

Important: A power failure, damaged connection lines/cable sockets, or short-circuits in other devices in the building systems can put the PBX out of operation.

- Using an ISDN Autoswitch (Auerswald optional accessory), you can switch a single emergency telephone from an internal to an external S_0 port during a power failure.
- If you have an uninterruptible power supply, e. g. the UPS-5115 Telecom (Auerswald optional accessory), you can continue operating a large part of the system during a power failure.

Important: Make sure to take suitable measures for protecting your data and yourself from misuse.

- Prevent unauthorized access to the PBX and its programming.
- It is important to consistently use all of the available options for assigning passwords. Do not use passwords which are easy to guess, such as birthdays.
- Make use of the permissions available (programming authorization, exchange line authorizations, restricted numbers, etc.).
- Check the call data recording of your PBX and the LOGs of your NAT router regularly for inconsistencies.
- Additional information about protecting the system from misuse can be found at the German Federal Office for Information Security: "Secure use of digital telecommunication systems“ (in German) as well as on the service portal at the Auerswald web site (Internet address: www.auerswald.de).

Intended Use

The COMpact 3000 VoIP, COMpact 3000 analog and COMpact 3000 ISDN devices are telecommunication systems; they will be referred to as PBXs in the following. These PBXs connect various internal devices with various public telecommunication networks, thereby enabling external and internal calls. For this purpose, the PBXs provide a number of different ports/interfaces.

The PBXs are appropriate for use on the private sector.

The PBXs are intended to be operated in closed rooms. In addition, all of the devices connected to the system must be located in the building.

Important: Auerswald products are not designed, manufactured, or intended for use or resale in environments requiring fail-safe performance, such as in the operation of life-support systems and/or nuclear facilities. Use or sale of our products for these purposes is only allowed with prior written permission by Auerswald for each individual incident.

PBXs have numerous features, including performing the following tasks:

- Call distribution
- Ensuring availability
- Evaluation of call data
- Cost control
- Central call answering machine (voice mail) and fax memory
- Call transfer
- Do-not-disturb

Important:

Many features are not available until they are set up via the PBX configuration manager.

In order to use some of the features, it is necessary to contact the network provider about activating the feature.

In order to use some of the functions, these have to be released in the Upgrade Center.

Basic Assembly

The basic assembly on the PBXs includes the following connection options:

- 1 external VoIP channel and 1 VoIP channel, flexibly internally/externally switchable with wideband audio (only COMpact 3000 VoIP)

- 1 external analog port (only COMpact 3000 analog)
- 1 external ISDN S_0 port (only COMpact 3000 ISDN)
- 4 internal analog ports
- Ethernet port (COMpact 3000 VoIP: 3 Ethernet ports)
- USB host 2.0
- SD card slot

Note: Accessories and service parts can be bought at specialised stores or in the Internet shop distriCOM at http://www.districom.de. (Delivery is provided only in Germany and to Austria.)

Hardware Extensions

The PBXs accommodate a module slot which can optionally be equipped with one of the following modules:

- COMpact 2a/b module – for extending the PBX by adding 2 internal analog ports.
- COMpact S_0 module – for extending the PBX by adding 1 internal S_0 port.
- COMpact ISDN module – for extending the PBX by adding 1 port, separately switchable between external S_0, internal S_0 and internal U_{P0}.

Software Extensions

In an Upgrade Centre, you can extend the PBX with the following options:

- 2 VoIP channels, flexibly internally/externally switchable with wideband audio (COMpact 3000 VoIP: number of VoIP channels from 2 to 4)
- LAN-TAPI (number of subscribers from 4 to 8)
- X.31 at an internal and external S_0 port (only COMpact 3000 ISDN with COMpact S_0 module or COMpact ISDN module available as an option)
- Fax transfer (via the **Auerswald Fax** printer driver)

Internal Analog Port

An internal analog port is suitable for connecting one of the following end devices:

- Analog telephone with DTMF dialling, e. g. COMfortel 500 or COMfortel DECT 660C

Important: Devices using dual-tone multi-frequency dialling must be equipped with a flash key (also referred to as signal key R).

Note: When using a T-Net-capable analog telephone, most T-Net functions can be used via the existing function keys on the telephone.

- Analog telephone with pulse dialling

> **Important:** Devices using pulse dialling cannot use the full range of features.

- Analog fax machine
- Analog answering machine
- Modem
- a/b door terminal system, e. g. TFS-Dialog 200/300, TFS-Universal a/b

Internal S_0 Port (only provided at the optionally available modules COMpact S_0 module and COMpact ISDN module)

An internal S_0 port is suitable for connecting one of the following terminal devices:

- COMfortel 1100/1500/2500/2500 AB system telephone (as of firmware version 4.0B)
- COMfortel DECT 900/900C system telephone
- ISDN telephone in compliance with the Euro ISDN Standard (DSS1)
- ISDN PC controller in compliance with the Euro ISDN Standard (DSS1)

> **Important:** The power consumption of the end devices on an S_0 port may total a maximum of 2.5 W.

Internal U_{P0} Port (only provided at the optionally available COMpact ISDN module)

An internal U_{P0} port is suitable for connecting one of the following terminal devices:

- COMfortel 1100/1500/2500/2500 AB system telephone (as of firmware version 4.0B)

All other devices can only be connected to the U_{P0} port via a U_{P0}/S_0 adapter. It provides a S_0 port with two Western sockets by converting 2-wire to 4-wire. It is suitable for connecting the following terminal devices:

- COMfortel DECT 900/900C system telephone
- ISDN telephone in compliance with the Euro ISDN Standard (DSS1)
- ISDN PC controller in compliance with the Euro ISDN Standard (DSS1)

> **Important:** The power consumption of the end devices on a U_{P0} port may total a maximum of 2.5 W.

External S_0 Port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)

The external S_0 port is designed for the connection to an NT working according to the European protocol DSS1 (Euro ISDN). It supports the following connection types:

- Basis access as a Point-to-Multipoint connection
- Basis access as a Point-to-Point connection

Furthermore, it is possible to connect to a digital GSM gateway.

External Analog Port (only COMpact 3000 analog)

The external analog port is tested in compliance with the former TBR21 standard and therefore suitable for connecting public analog telephone networks across Europe. When using the international system variant, the country in which the PBX is operated over an analog connection must be configured after the device has been put into operation.

Furthermore, it is possible to connect to an analog GSM gateway.

Ethernet Port

For configuration/administration, the Ethernet port can be connected to a separate PC or to a local network (LAN).

For a CTI solution (LAN-TAPI), the Ethernet port can be connected to a local network (CTI server and CTI clients). This requires CTI software. We recommend the following software manufacturers:

- Estos (www.estos.de)
- ilink (direct.ilink.de)

The following telephones connected to the PBX are supported by the LAN-TAPI:

- COMfortel VoIP 2500 AB system telephone (as of firmware version 4.0B)
- COMfortel 1100/1500/2500/2500 AB system telephone (as of firmware version 4.0B)
- ISDN telephone
- Analog telephone

By means of an activation in the Upgrade Center (for a fee), the PBX can be extended by two VoIP channels for internal and/or external use. The COMpact 3000 VoIP has one VoIP channel for external use and one VoIP channel for internal and/or external use by default.

When using the VoIP channels externally, the Ethernet port can be connected to the Internet via a router. The PBX supports two different types of VoIP accounts:

- VoIP accounts with one or more VoIP phone numbers (similar to the point-to-multipoint connection on ISDN)
- VoIP accounts with a DDI number block (similar to the PBX connection under ISDN), based on the SIP-DDI feature (also known as SIP trunking)

When using the VoIP channels internally, the Ethernet port is suitable for connecting the following end devices:

- COMfortel VoIP 2500 AB system telephone (recommended, as of firmware version 4.0B)
- Standard VoIP end device (SIP)
- Soft phone (SIP)

Important: Note that many standard VoIP end devices can only use the functions of the PBX to a very limited extent.

USB Host 2.0

The USB host is suitable for connecting one of the following end devices:

- USB memory stick
- USB hard disk
- USB printer

Important:

The storage media used require an FAT16 or FAT32 formatting supporting long file names.

The connection of a hub is not supported.

SD Card Slot

The SD card slot is suited for an SD or SDHC memory card.

Important: The storage media used require an FAT16 or FAT32 formatting with vFAT for the support of long file names.

Configuration/Administration

The configuration/administration is performed by means of a PC connected to the PBX (directly or via the LAN). The configuration manager is contained in the web server integrated into the PBX and is simply opened with a browser. The installation of a special configuration software is not required. The access is platform-independent and is, thus, possible with the browsers Microsoft Internet Explorer and Mozilla Firefox on Windows, Linux and Mac-OS-X operating systems.

The configuration manager enables you to do the following tasks:

- Configure the PBX
- Manage the recorded voice and fax messages

- Manage call data
- Manage telephone book entries
- Manage wake-up times
- Manage call allowance accounts
- Manage internal hold music/announcements
- Manage data for Least Cost Routing
- Service and maintenance

In order to limit the tasks the operator or user must perform, the configuration manager is divided according to three authorization levels:

- Administrator
- Sub-Administrator
- User

Using Different Telephone Types

According to the type of telephone used, there are differences in the operation and programming of the PBX. The following telephones can be operated at the PBX:

Analog Telephones (PD and DTMF)

If you are already in a call state with another subscriber (internal or external), you have to press the Flash key (signal key, R key) first on a DTMF phone before dialling a digit, e.g. for a call transfer.

PD phones do not have a Flash key. Moreover, there will be no asterisk (*) or pound key (#) or there will be no function assigned to these keys. Since these keys are required for the major part of all call types (e. g. internal calls at a direct exchange access point) as well as to make settings (programming), it is not possible to perform these functions with PD phones. They can only initiate and accept simple calls. If your telephone offers both dialling modes, you should therefore set it to DTMF.

Analog T-Net Telephones

On some analog DTMF telephones, specific T-Net functions can be performed in the analog T-Net via the menu or via specific function keys. If you are operating such a telephone as an internal subscriber, you can also use these comfortable operation modes for some functions of the PBX. Please note that the T-Net functions of the telephone are limited because the PBX doesn‘t support some functions. If you wish to use the T-Net functions of your telephone, please refer to the manual for the telephone. When entering telephone numbers, take care to enter the leading exchange line access number. Instead of an "announcement of the central office", you will hear the confirmation tone for successful programming.

ISDN Telephones

To be able to operate your ISDN telephone, you have to make yourself acquainted with its functions. To do this, read the manual for the telephone or use the ISDN telephone help files provided by Auerswald if your telephone is listed here (included on the Auerswald Mega Disk and on the Auerswald homepage). It is vital to know which key (e.g. hold or R key) or menu you have to use to initiate a query call. To use some functions, you have to rely completely on the menus/keys of the telephone (see notes). The digits to be dialled for analog telephones are not required here.

System Telephones

As described in this manual, you can use the major part of the PBX functions with all connected telephones. With the COMfortel 1100, COMfortel 1500, COMfortel 2500, COMfortel 2500 AB, and COMfortel VoIP 2500 AB system telephones, the operation is more comfortable, since the

most important functions can be controlled via a menu/function key. In this case, the operation is described in the manual. Some of the PBX functions described can only be used on the system telephones specified in the description.

Standard VoIP Telephones

On some standard VoIP telephones, functions such as "Call waiting", "Conference", "Query calling", and "Hold" are not carried out via the PBX, but rather on the phone itself. Therefore, the instructions for operating these functions may deviate from the descriptions in this manual. For more information on this, please refer to the manual for the telephone.

Normally, pressing the pound key # on a standard VoIP telephone initiates a dialling procedure. Since this key is required for numerous functions, as well as for all settings (programming), using the pound key for these actions is not possible on most standard VoIP telephones. For more information on this, please refer to the manual for the telephone.

Technical Data

Power Supply

Power supply	Power plug with Euro connector, 230 VAC +/-10 %, 50 Hz
Power plug	Type no. FW7577/EU/40
Power consumption	COMpact 3000 analog: Min. 2.4 W, max. 15 W
	COMpact 3000 ISDN: Min. 2.4 W, max. 15 W
	COMpact 3000 VoIP: Min. 3 W, max. 18 W
Expansion modules	Power supply from the PBX

Environmental Requirements

Operation	0 to +40 °C
	Protect unit against direct sunlight!
Storage and shipping	-20 to +70 °C
Humidity	10 to 90 %, non-condensing

Connection Options at the Basic Unit

Analog internal	4 internal analog ports
VoIP internal/external, PC and LAN	Ethernet port (COMpact 3000 VoIP: 3 Ethernet ports)
Printer and memory	USB host and 1 SD card slot
ISDN external	1 external S_0 port (only COMpact 3000 ISDN)
Analog external	1 external analog port (only COMpact 3000 analog)
Expansion modules	1 module slot

Connection Options on the COMpact ISDN Module

ISDN internal/external	1 S_0/U_{P0} port, optionally switchable as internal S_0 port, internal U_{P0} port or external S_0 port (jumper)

Connection Options on the COMpact S_0 Module

ISDN internal	1 internal S_0 port

Connection Options on the COMpact 2a/b Module

Analog internal	2 internal analog ports

Internal Analog Port

Connection (unit)	Terminal clamp (2-core), at basic unit or TAE socket
Type of dialling	Pulse or tone dialling
Open-circuit voltage	Max. 40 VDC
Loop current	Approx. 21 mA
Range	2 x 50 Ohm, approx. 790 m at 0.6 mm diameter
Call voltage	Approx. 45 V_{eff}, configurable: 25/50 Hz
Audible signals	425 Hz +/-5 %, interval +/-10 %
Impedances a/b	Z_{Euro} 270 Ohm + 750 Ohm || 150 nF
Frequency range	50 to 7000 Hz (wideband sound quality)

Internal S_0 Port

Connection (unit)	Terminal clamp (4-core), optional RJ-45 socket
Connection type	S_0 basis access as Point-to-Multipoint connection, Euro ISDN (DSS1)
Supply voltage	40 V + 5 % / –15 %
Feeder	Max. 2.5 W
End devices	Max. 2 ISDN end devices recommended (of which max. 2 end devices without separate power feed, e. g. different ISDN telephones)
Range	Max. 100-200 m (for bus setup; European standards ENV41001 [DINV41001] and EN28877 apply to IAE termination technology)
Terminators	Switchable; factory settings on

Internal U_{P0} Port

Connection (unit)	Terminal clamp (2-core)
Connection type	U_{P0} mit Euro ISDN Protocol (DSS1); 2 B channels, direct connection of a U_{P0} telephone or the U_{P0}/S_0 adapter
Supply voltage	40 V + 5 % / –15 %
Feeder	Max. 2.5 W
Range	screened cable: up to 600 m; unscreened cable: up to 1000 m

External Analog Port

Connection (unit)	RJ-11 socket
Type of dialling	DTMF
Impedances a/b	Configurable

Reception amplification	Configurable
Transmission amplification	Configurable
Ringer signal frequency	Configurable
CLIP detection	Configurable
Line seizure detection	Configurable
Call start detection	Configurable
Call end detection	Configurable

External S_0 Port

Connection (unit)	RJ-45 socket
Connection type	S_0 basis access as Point-to-Multipoint connection or as a Point-to-Point connection, Euro ISDN (DSS1), unit is powered locally.
Terminators	Permanently installed

Ethernet Port

Connection (unit)	COMpact 3000 analog: RJ-45 socket „LAN“ COMpact 3000 ISDN: RJ-45 socket „LAN“ COMpact 3000 VoIP: one RJ-45 socket „WAN“, two RJ-45 sockets „LAN“
Interface	10/100 Base-T (10/100 Mbps, RJ-45 twisted-pair), Full/half-duplex autonegation, Auto-MDIX, COMpact 3000 VoIP: 3-port switch

VoIP

VoIP standard	SIP according to RFC 3261
VoIP codecs on the exchange line	G.722, G.711, G.726, iLBC
VoIP codecs, internal	G.722, G.711, G.726, iLBC
End devices	1 end device per VoIP subscriber

USB Host

Connection (unit)	COMpact 3000 analog: USB A-socket COMpact 3000 ISDN: USB A-socket COMpact 3000 VoIP: USB A-socket
Interface	USB (high speed, V2.0)

Further Information

Cabinet	Plastic, chassis with lid and protective cover panel
Dimensions	240 mm x 240 mm x 58.4 mm (basic unit)
(W x H x D)	125 mm x 40 mm x 16 mm (COMpact 2a/b module)
	125 mm x 40 mm x 16 mm (COMpact S_0 module)
Weight	840 g (basic unit)
	110 g (power plug)
	20 g (COMpact 2a/b module)
	30 g (COMpact S_0 module)
Safety	CE, LVD, EN 60950

Copyright

Disseminating and reproducing these instructions, as well as using and disclosing the contents, even in part, is permitted only with our express permission. Offenders will be subject to claims for damages. All rights reserved. © Auerswald GmbH & Co. KG, 38162 Cremlingen, 2011

Environmental Notice

If your Auerswald device is taken out of use, please make sure that it is properly disposed of (must not be disposed of with normal household waste).

For the sake of environmental protection, please make sure that packaging materials are also properly disposed of.

Please consult your municipal administration authorities for options of proper and environmentally safe disposal of the device. If you want us to take over the disposal, please send the device to us.Shipment which is not prepaid cannot be accepted.

Batteries and accumulators have to be discharged completely before disposal (empty/voltage-free). Batteries have to be handed in at the collection point for old batteries.

Installing and Switching on the PBX

This section describes how to install and switch on the PBX. This includes the wall mounting, the connection to the network provider, and the connection of the end devices.

Topics

– Preparation (page 37)
– Network Provider (page 47)
– Analog End Devices (page 53)
– ISDN End Devices (page 57)
– VoIP End Devices (page 67)
– Printers and Storage Media (page 69)
– Commissioning (page 71)

Preparation

Prior to the installation and commissioning of the device, you have to make some preparations. This includes installing the PBX as a standing unit or mounting it on the wall and possibly to plug in an existing module (not contained in the scope of delivery). Moreover, the cover panel has to be removed to perform some installation jobs. The overviews of the basic unit and on the modules provides information to facilitate finding the various connection options.

Important Information on the Installation Site

The PBX can be operated both as desktop device or as a wall-mounted unit.

A freely accessible 230 V Schuko socket is required in the immediate vicinity of the installation site for the purpose of power supply. The wall socket or the NT provided by the network provider should also be in the immediate vicinity of the installation site. If the wall socket/NT is relatively far away from the PBX, a cable with wall socket must first be laid.

Please observe the safety information given in the following.

Warning: Liquid entering the casing can cause life-threatening electric shocks or damage/destroy the PBX.

- Only operate the device in closed, dry rooms.

Caution: Overheating can damage or destroy the system.

- Note the ambient temperature values indicated in the technical data.
- Make sure that heat produced by the device can be adequately vented into the environment. Do not install the system in a cabinet without adequate air circulation.

Important: Mechanical loads and electro-magnetic fields can impair PBX operation.

- Avoid mechanical loads (e. g. vibrations).
- Avoid proximity to devices that generate electro-magnetic fields or react sensitively to them (e. g. radio receivers, amateur radio sets, mobile phones, DECT systems, or similar).
- Protect the PBX from soiling, dust, and condensation.

Assembling the PBX (Use as Desktop Device)

Requirements:

– *The rubber feet contained in the scope of delivery*

1. Glue the four rubber feet onto the sections on the bottom of the casing which are marked with circles.
2. Place the PBX on a clean, flat surface.

Caution: Some plastics and paint used on furniture may react chemically with the plastic feet of the PBX and cause them to soften. Plastic chemically changed in this way on the feet of the device may cause damage to the surface of your furniture.

- If you are using the PBX as a desktop device, make sure that it is placed on a non-slip pad.

Wall Mounting of the PBX

Requirements:

– *Drill and screw driver*

– *The drilling template contained in the scope of delivery*

– *The screws and dowels included in the scope of delivery*

1. Hold the drilling template onto the area where the device is to be mounted and place marks where the mounting holes are to be drilled into the wall.

Important: Make sure that there are no electrical leads, gas or water conductions in the section where you want to drill the holes.

2. Drill the mounting holes (diameter 6 mm) and insert dowels into the holes.
3. Screw in the three screws far enough so that the screw head is about 4 mm away from the wall.
4. Mount the PBX on the screws, then slide the PBX on the wall downwards until the screws hit the stopper.

Removing the Cover Panel

Warning: Touching voltage-carrying conductors or telephone connections may cause a life-threatening electric shock.

- Remove the power plugs – if connected – for both the PBX and all accessories from the power socket before you open the casing.
- If necessary, also disconnect the devices from auxiliary power sources (e. g. UPS).

Warning: Power surges, which can occur during electrical storms, can cause life-threatening electric shocks.

- Do not open an already connected PBX during an electrical storm.

1. Grasp the cover panel from below (under the rim) to the left and right with the fingers of both hands. Place the thumbs in the middle section next to the LED display.
2. Pull the cover panel away from the chassis slightly on both sides to unlatch the locking.

   The figure below shows the position of the hands on the cover panel and the direction in which you have to pull the panel.

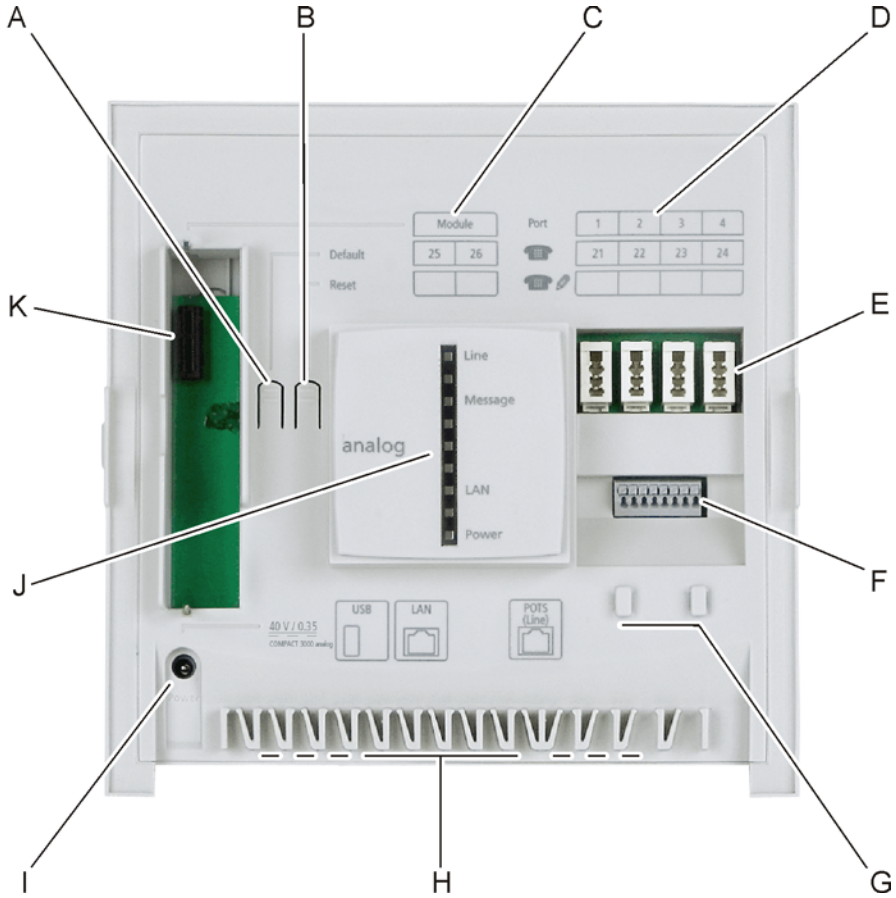
3. Lift the upper cover panel vertically off the casing. To support this action, press with the thumbs against the casing.

Overview of the Connections and Other Device Components

Overview Basic Unit

Top View

The figure below shows the components which will be accessible after removing the cover panel based on the COMpact 3000 analog.



A “Default” button

B “Reset” button

C Label for telephone numbers of the subscribers at the inserted module

D Label for telephone numbers of analog subscribers

Note: The configured telephone numbers can be entered into the lower line. Above, the telephone numbers are printed in the ex-factory state.

E Depending on the country variant: four TAE sockets or RJ-11 sockets (internal a/b ports 1-4) for the connection of analog end devices

F Eight terminal clamps (internal a/b port 1-4) for the connection of analog end devices, two adjoining terminal clamps per port

G Mounting straps for strain relief

H Cable channels including strain relief

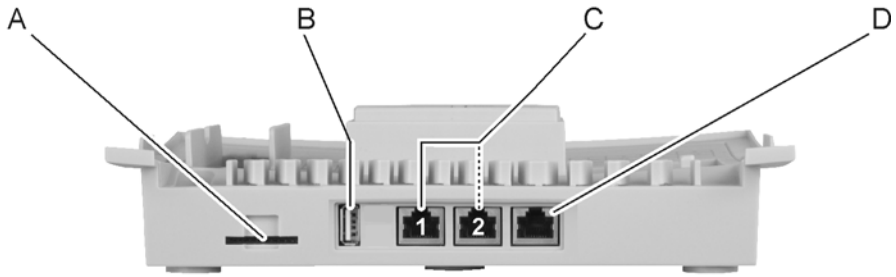
I Barrel connector socket for the connection of the power plug

J LED display field to control the operating state

K Variable module slot

View from Below

The following figure shows the components accommodated at the side of the basic unit (after wall mounting, pointing to the bottom) based on the COMpact 3000 VoIP.



A SD card slot

B One USB socket type A (USB host) for connecting to a printer or a storage medium

C COMpact 3000 VoIP: two RJ-45 sockets “LAN 1“ and “LAN 2“ (Ethernet) for connecting to a PC, VoIP telephone and/or a network

---

Note: The RJ-45 sockets “LAN 2“ and “WAN“ have priority over the RJ-45 socket “LAN 1“ (Traffic Shaping). Therefore you should preferably use “LAN 2“ for connecting to a VoIP telephone and “LAN 1“ for connecting to a PC.

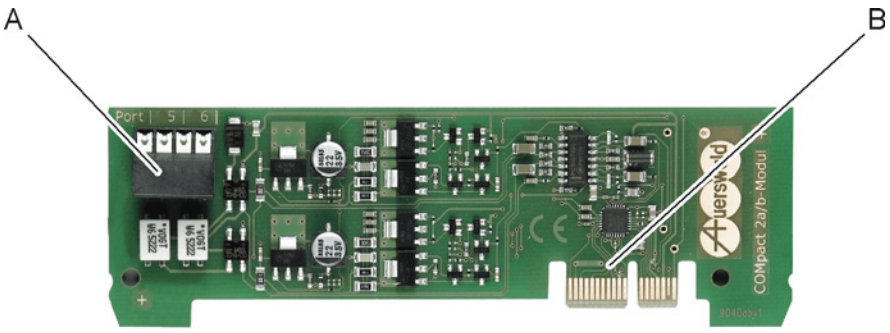
COMpact 3000 ISDN and analog: one RJ-45 socket “LAN“ (Ethernet) for connecting to a PC, VoIP telephone or a network

D COMpact 3000 VoIP: RJ-45 socket “WAN“ (Ethernet) for the connection to a DSL router

COMpact 3000 ISDN: RJ-45 socket (external S_0 port) for the connection to an ISDN connection (NT)
COMpact 3000 analog: RJ-11 socket (external analog port) for the connection to an analog connection

COMpact 2a/b Module Overview

The figure below shows the optionally available COMpact 2a/b module.

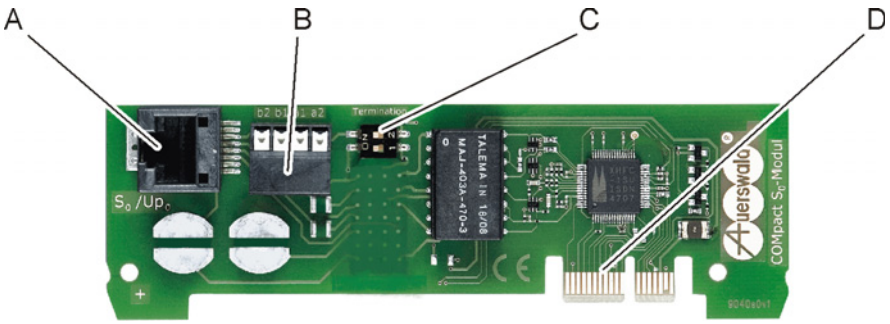


A Four terminal clamps (internal a/b port 5-6) for the connection of analog end devices, two adjoining terminal clamps per port

B Connector for the connection to the basic unit

Overview COMpact S_0 Module

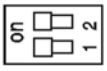
The figure below shows the optionally available COMpact S_0 module.



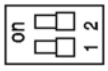
A RJ-45 socket (external S_0 port) for the direct connection of ISDN end devices

B Four external terminal clamps (internal S_0 port) for the connection of ISDN end devices

C DIP switches for terminators on the internal S_0 port



switched on

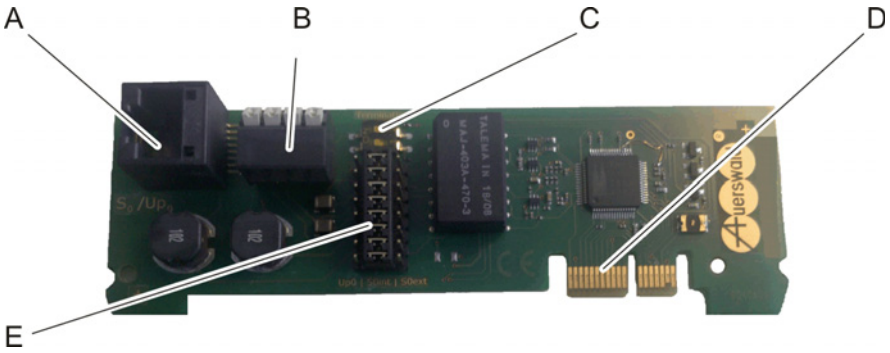


switched off

D Connector for the connection to the basic unit

Overview COMpact ISDN Module

The figure below shows the optionally available COMpact ISDN module.



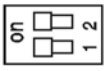
Caution: Electrostatic charges can destroy sensitive components.

- Divert electrostatic charges from yourself before touching the electronic components with your hands or any tools. To do this, touch a metal object, preferably earthed, e. g. a heater or computer housing.

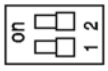
A RJ-45 socket for the connection to the S_0/U_{P0} port

B Four terminal clamps (internal S_0/U_{P0} port) for the connection of ISDN end devices

C DIP switches for terminators on the S_0/U_{P0} port



switched on

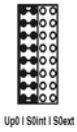


switched off

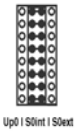
D Connector for the connection to the basic unit

E Jumper for switching over the operation mode at the S_0/U_{P0} port

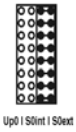
internal U_{P0} port



internal S_0 port



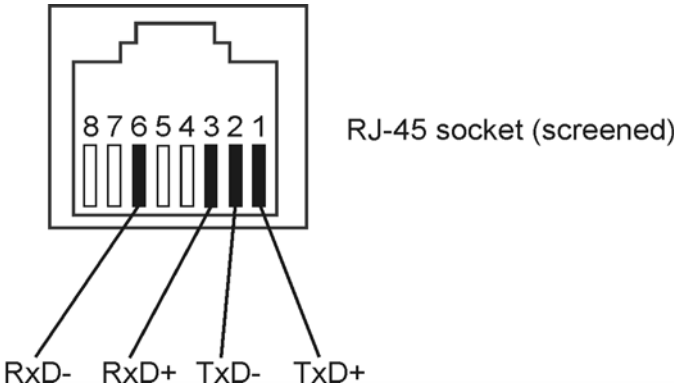
external S_0 port



Pin Assignment of Western Sockets (RJ-11 and RJ-45)

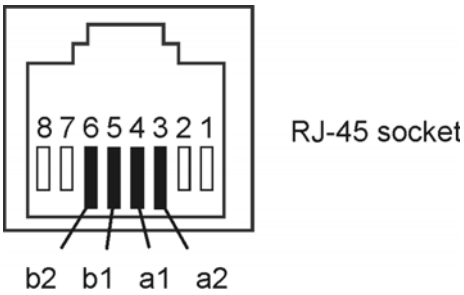
The pin assignment of the RJ-11 and RJ-45 sockets for the various ports is shown in the following.

Ethernet Port

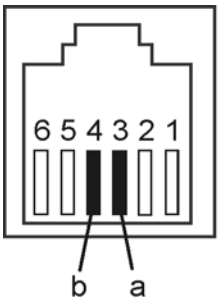


External S_0 Port

Colors of cable: Ribbon cable b2 Yellow b1 Black a2 White a1 Red

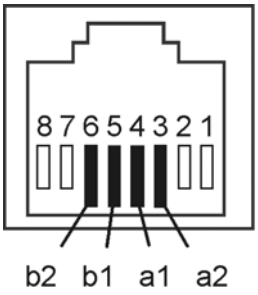


External Analog Port



RJ-11 socket

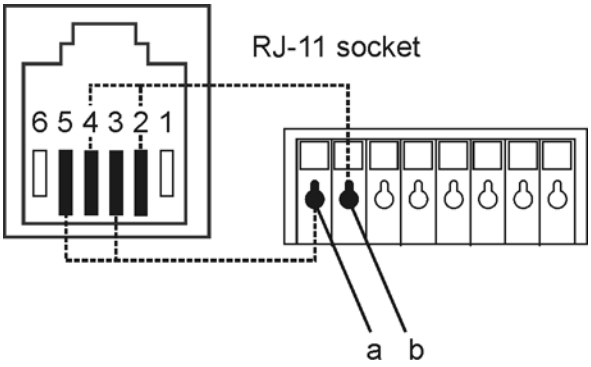
Internal S_0 Port



RJ-45 socket

Colors of cable: Ribbon cable b2 Yellow b1 Black a2 White a1 Red

Internal Analog Port



Plugging in the Module

Caution: Plugging the modules while the PBX is connected to the mains may damage the PBX or the modules.

- Remove the PBX power plug and the accessory power plug from the power socket and wait ten seconds before inserting or removing modules.

Caution: Electrostatic charges can destroy sensitive components.

- Divert electrostatic charges from yourself before touching the electronic components with your hands or any tools. To do this, touch a metal object, preferably earthed, e. g. a heater or computer housing.

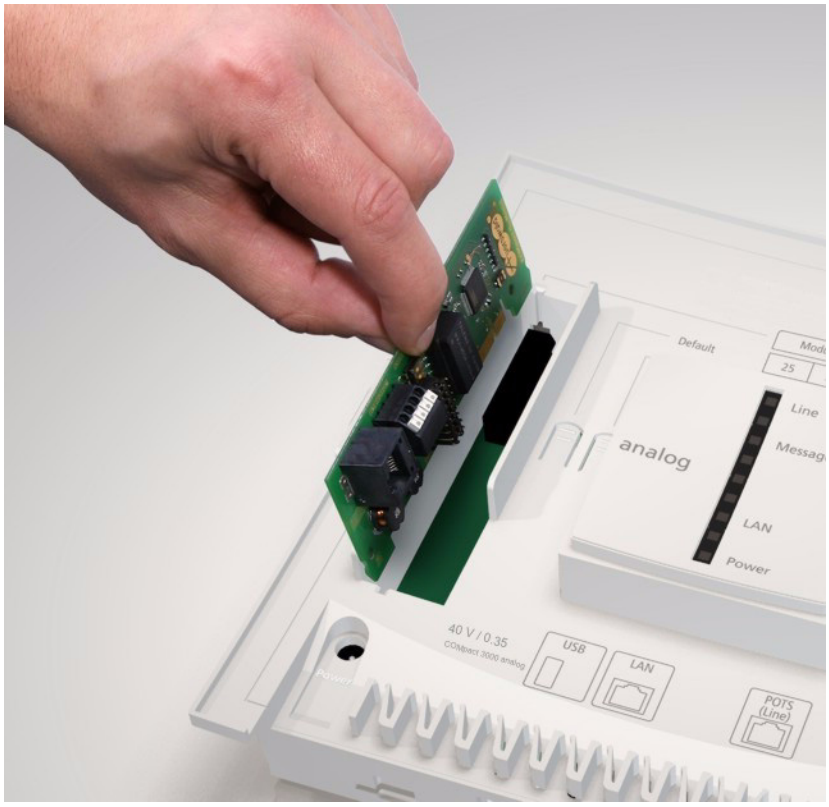
Requirements:

– *Cover panel is removed*

– *Optionally available COMpact S_0 module or COMpact 2a/b module*

1. Insert the module between the two circuit board guides.
2. Press the module downwards and vertically towards the basic unit.

   The figure in the following shows the position of the module slot under the cover panel, as well as the plug-in connection of the module.



Network Provider

For the connection to the network provider, the ports described in the following can be used.

External S_0 Port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)

The external S_0 port is designed for the connection to an NT working according to the European protocol DSS1 (Euro ISDN). It supports the following connection types:

- Basis access as a Point-to-Multipoint connection
- Basis access as a Point-to-Point connection

Furthermore, it is possible to connect to a digital GSM gateway.

External Analog Port (only COMpact 3000 analog)

The external analog port is tested in compliance with the former TBR21 standard and therefore suitable for connecting public analog telephone networks across Europe. When using the international system variant, the country in which the PBX is operated over an analog connection must be configured after the device has been put into operation.

Furthermore, it is possible to connect to an analog GSM gateway.

Ethernet Port

By means of an activation in the Upgrade Center (for a fee), the PBX can be extended by two VoIP channels for internal and/or external use. The COMpact 3000 VoIP has one VoIP channel for external use and one VoIP channel for internal and/or external use by default.

When using the VoIP channels externally, the Ethernet port can be connected to the Internet via a router. The PBX supports two different types of VoIP accounts:

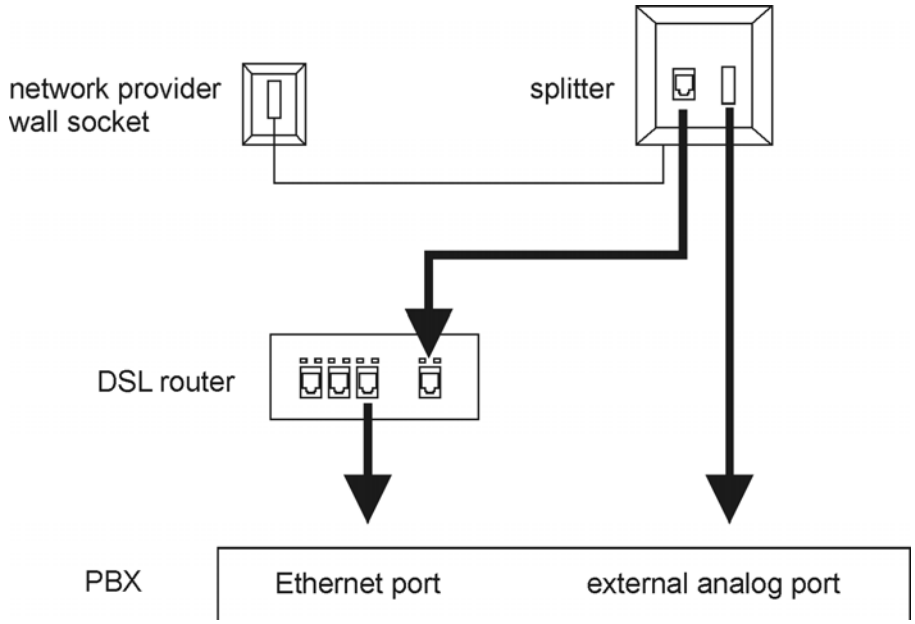
- VoIP accounts with one or more VoIP phone numbers (similar to the point-to-multipoint connection on ISDN)
- VoIP accounts with a DDI number block (similar to the point-to-point connection under ISDN), based on the SIP-DDI feature (also known as SIP trunking)

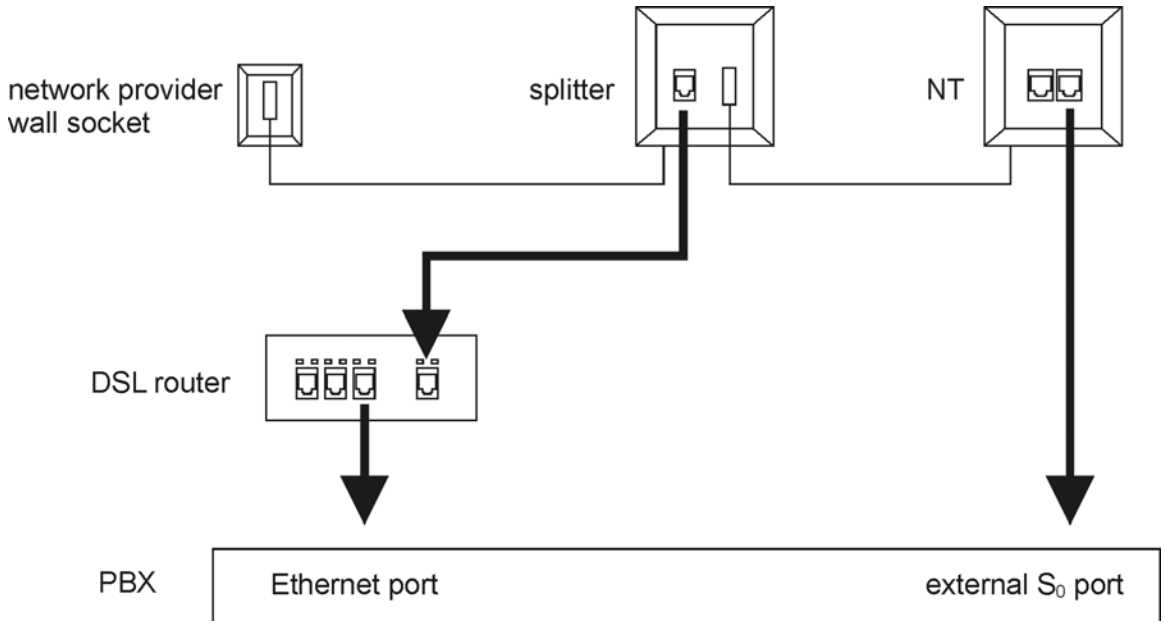
Combination of various public networks

The COMpact 3000 series offers the combination of various public networks:

- Analog connection and DSL (COMpact 3000 analog)
- ISDN connection and DSL (COMpact 3000 ISDN)
- only with optionally available COMpact ISDN module: DSL, analog and ISDN connection (COMpact 3000 analog) or DSL and ISDN connection (COMpact 3000 VoIP)

The diagrams give examples of how to set up connections:





Connecting the Analog Connection Directly to the External Analog Port

Requirements:

– *External analog port (only COMpact 3000 analog)*

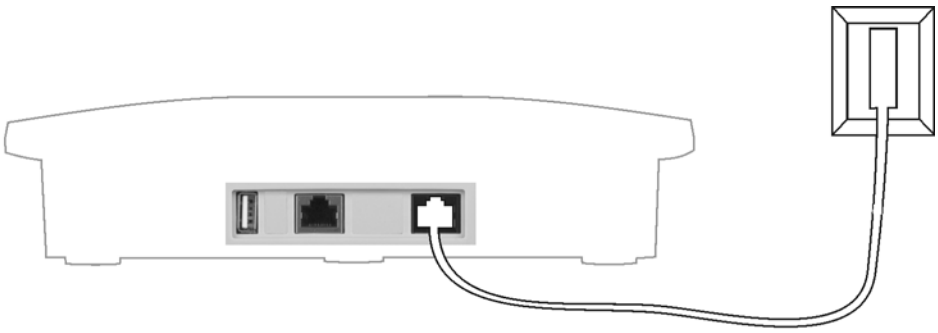
– *Minimal distance between the devices*

> **Note:** If the analog connection is relatively far away from the PBX, a cable with wall socket must first be laid.

– *The RJ-11 (6P/4C) connection cable to TAE-F included in the scope of delivery*

1. Insert the end of the connection cable into the RJ-11 socket on the PBX.
2. Insert the other end of the connection cable into the wall socket provided by the network provider.

   The following figure shows the position of the RJ-11 socket at the side of the casing, as well as the set up connection.



Connecting an ISDN Connection (NT) Directly to the External S_0 Port

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*

– *Minimal distance between the devices*

> **Note:** If the NT is relatively far away from the PBX, a cable with wall socket must first be laid. Since the terminators have already been integrated into the PBX, the wall sockets must not contain any terminators.

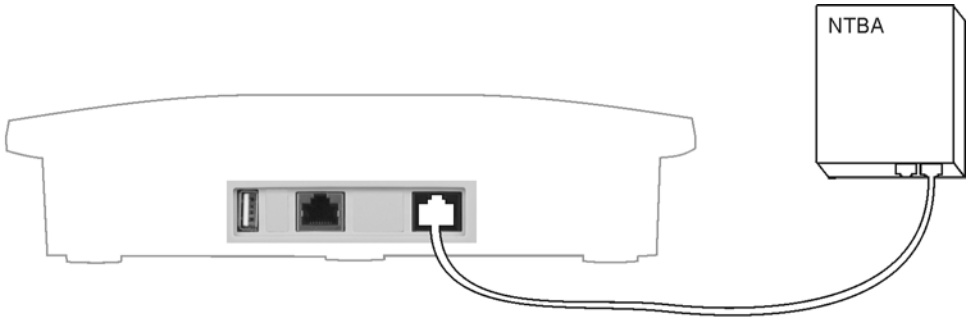
– *The connection cable included in the package*

– *The terminators switched in in the NT*

1. Insert the end of the connection cable into the RJ-45 socket on the PBX (at the COMpact 3000 ISDN (see below) or at the COMpact ISDN module (see the overview of the COMpact ISDN module)).

2. Connect the PBX to the NT.

   The following figure shows the position of the RJ-45 socket at the side of the casing (COMpact 3000 ISDN), as well as the set up connection.



Connecting the Ethernet Port with the Internet

Important: If you would like to integrate the PBX into an existing network, please contact the system administrator responsible for this. Making changes to an existing network may cause considerable malfunctions.

Requirements:

- *External VoIP channel (COMpact 3000 VoIP or VoIP channels obtained at the Upgrade Center and enabled by it)*
- *Line lengths between the devices shorter than 100 m*
- *Patch cable*
- *Broadband Internet connection (e. g. DSL router, TV cable router)*
- *Existing network (LAN) with a recommended data rate of 100 Mbps*

Note: For VoIP data communication in combination with the transmission of limited amounts of data, a data transmission rate in the LAN of 10 Mbps is sufficient under certain circumstances. For VoIP data communication in combination with the transmission of large amounts of data (e. g. downloads), we recommend upgrading to a data transmission rate of 100 Mbps. For this purpose, replace not only all of the active network components (e. g. switch and router), but also all of the passive network compo-

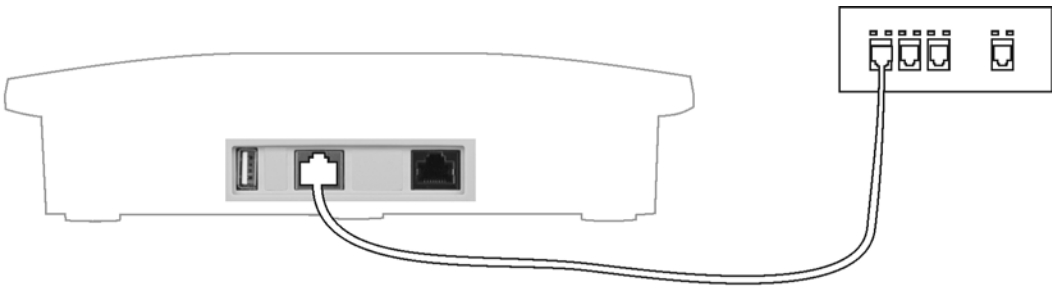
nents (e. g. cables and wall sockets). For a reliable support of 100 Mbps, you need cables and wall sockets of at least Category 5 (CAT5).

– *To use DiffServ to prioritize voice packets: DiffServ support on all active network components available and enabled*
– *A router that is specifically designed for VoIP data communication (SIP-aware)*

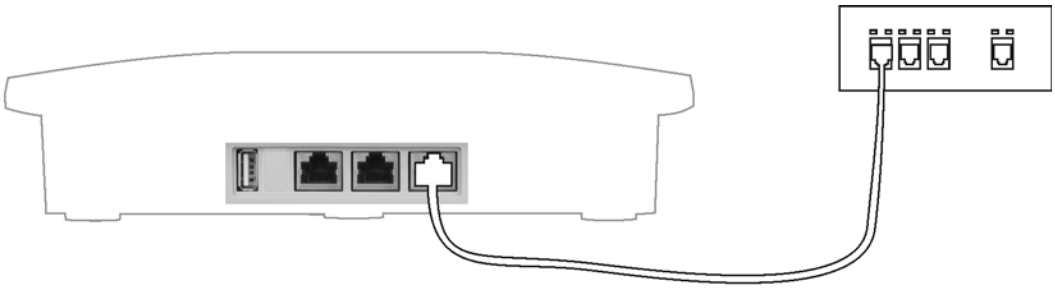
Note: If this is not the case, several of the ports on the router necessary for VoIP data communication must be enabled (RTP port and SIP-UDP ports) (Port Forwarding/Port Enabling). A list of the ports used in the PBX can be found in the configuration manager of the PBX under **Service > Port overview**.

1. Depending on the PBX variant operated, proceed as follows.
   - COMpact 3000 analog and ISDN: Insert the end of the patch cable into the RJ-45 socket „LAN“ on the PBX.
   - COMpact 3000 VoIP: Insert the end of the patch cable into the RJ-45 socket „WAN“ on the PBX.
2. Insert the other end of the cable into the output socket on the router or into an existing network outlet.

   COMpact 3000 analog and ISDN: The following figure shows the position of the RJ-45 socket „LAN“ at the side of the casing, as well as the set up connection.



COMpact 3000 VoIP: The following figure shows the position of the RJ-45 socket „WAN“ at the side of the casing, as well as the set up connection.



Further steps:

– *Configure the necessary network settings on the router and/or on the PBX at the end of commissioning.*

Note: To connect the router to the network provider, please refer to the documentation provided by the network provider, as well as to the documentation of the router.

Analog End Devices

An internal analog port is suitable for connecting one of the following end devices:

- Analog telephone with DTMF dialling, e. g. COMfortel 500

  Important: Devices using dual-tone multi-frequency dialling must be equipped with a Flash key (also referred to as signal key R).

  Note: When using a T-Net-capable analog telephone, most T-Net functions can be used via the existing function keys on the telephone.

- Analog telephone with pulse dialling

  Important: Devices using pulse dialling cannot use the full range of features.

- Analog fax machine
- Modem

  Important: If the external port of the PBX is connected to an NGN access, the transmission of the fax/modem signals will not be possible due to the possible use of compressing codecs.

- Analog answering machine
- a/b door terminal system, e. g. TFS-Dialog 200/300, TFS-Universal a/b

Connecting Analog End Devices Directly to the Internal a/b Port

Requirements:

– *Cover panel is removed*

– *Minimal distance between the devices*

Note: If the end device is placed a larger distance away from the PBX, the cable and the wall sockets must be permanently installed.

– *Use of a/b ports on the basic unit*

Note: Only terminal clamps are available for the a/b ports on the optional COMpact 2a/b module.

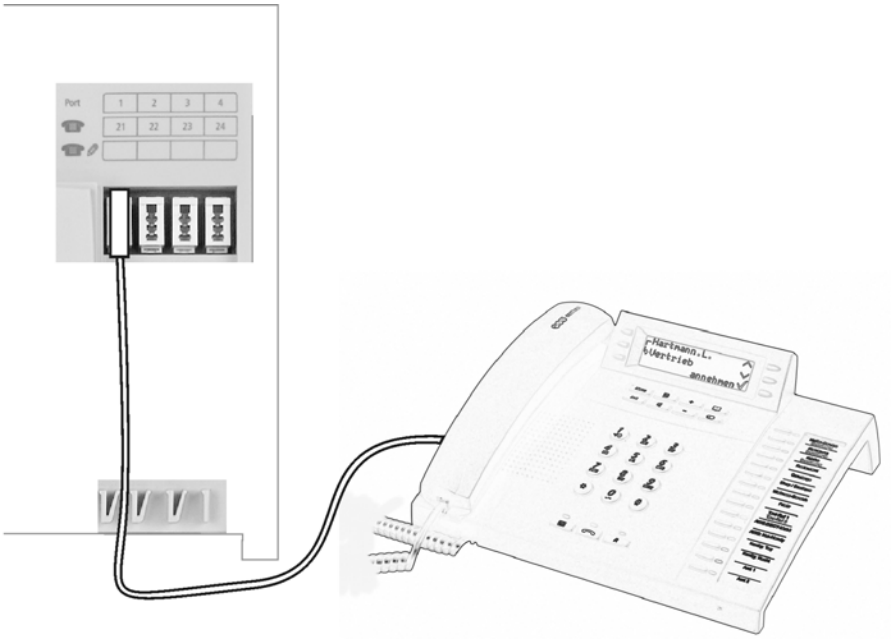
Depending on the PBX variant operated, proceed as follows.

- German PBX variant: Insert the square TAE cable connector of the end device into the TAE socket of the PBX.

- International PBX variant: Insert the RJ-45 connector of the end device into the RJ-45 socket of the PBX.

Note: The sockets on the PBX are equally suitable for all end devices.

The figure in the following shows the position of the TAE sockets under the cover panel, as well as the connection set up to an analog telephone.



Installing Cables and Wall Sockets at the Internal a/b Port

Warning: Power surges, which can occur during electrical storms, can cause life-threatening electric shocks or damage/destroy the PBX.

- Lay all the cables inside the building.
- Do not use the a/b ports to connect external private branch exchanges.

Requirements:

– *Cover panel is removed*

– *Keeping the maximal distance/line length between the devices depending of the cable used (with a pair diameter of 0.6 mm: approximately 790 m)*

– *Per a/b port, one wire pair of an installation cable (e. g. J-Y(St)Y 2x2x0,6)*

– *Under unfavorable conditions, for example, near a strong transmitter or an electrical power line: screened cable*

– *For telephones or combination fax/answering machines: a TAE wall socket with F coding (a single socket labeled with an **F**)*

– *For fax machines, modems, and call answering machines: a TAE wall socket with an additional socket with N coding*

Note: Outside of Germany, use RJ-45 sockets or the analog wall sockets normally used in the country in question.

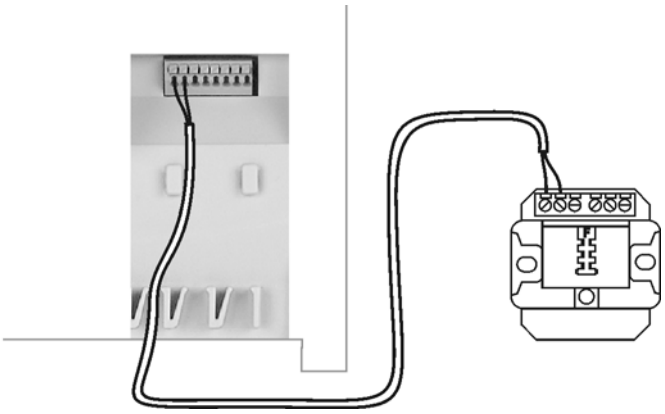
1. Lay the line.

   Note: Prevent interferences. Avoid laying long lengths of parallel lines, especially next to mains. Twist the pairs.

2. Attach the wires to the two terminal clamps at the internal a/b port.

3. Connect the wall sockets to the terminal clamps at the internal a/b port.

The figure in the following shows the position of the terminal clamps under the cover panel, as well as the connection set up to a TAE wall socket with F coding.



Further steps:

– *Connect the end devices to the wall sockets.*

Note: For TAE wall sockets, insert the connectors for the telephones or combination fax/answering machines into the socket labeled with **F** and insert the connectors of the remaining devices into the socket labeled with **N**.

ISDN End Devices

A COMpact S_0 module can be used to extend the PBX by adding 1 internal S_0 port. A COMpact ISDN module can be used to extend the PBX by adding an internal S_0 port or an internal U_{P0} port.

An internal S_0 port is suitable for connecting one of the following terminal devices:

- COMfortel 1100/1500/2500/2500 AB system telephone (as of firmware version 4.0B)
- COMfortel DECT system telephone
- ISDN telephone in compliance with the Euro ISDN Standard (DSS1)
- ISDN PC controller in compliance with the Euro ISDN Standard (DSS1)

> **Important:** The power consumption of the end devices on an S_0 port may total a maximum of 2.5 W.

An internal U_{P0} port is suitable for connecting one of the following terminal devices:

- COMfortel 1100/1500/2500/2500 AB system telephone (as of firmware version 4.0B)

All other devices can only be connected to the U_{P0} port via a U_{P0}/S_0 adapter. It provides a S_0 port with two Western sockets by converting 2-wire to 4-wire. It is suitable for connecting the following terminal devices:

- COMfortel DECT 900/900C system telephone
- ISDN telephone in compliance with the Euro ISDN Standard (DSS1)
- ISDN PC controller in compliance with the Euro ISDN Standard (DSS1)

> **Important:** The power consumption of the end devices on a U_{P0} port may total a maximum of 2.5 W.

Connecting ISDN End Devices Directly to the Internal S_0 Port

Requirements:

– *Cover panel is removed*
– *Internal S_0 port (only provided at the optionally available COMpact S_0 module or COMpact ISDN module)*
– *Terminators switched on at the internal S_0 port*
– *Short distances between the devices (maximum length of the connection cable used: 10 m)*

> **Note:** If the end device is placed a larger distance away from the PBX, the cable and the wall sockets must be permanently installed.

– *For connecting multiple end devices on one internal S_0 port: one ISDN multiplug*

> **Note:** The Auerswald ISDN Multiplug and ISDN Autoswitch are available for this type of wiring as optional accessories in specialized stores. In addition, the ISDN Autoswitch provides the option of switching a single emergency telephone from the internal to an existing external S_0 port during a power failure. The telephone used for this must support emergency operation.

Depending on the number of the end devices, proceed as follows.

- Single end device: Insert the RJ-45 plug of the end device into the RJ-45 socket of the COMpact S_0 module.

- Multiple end devices: Insert the RJ-45 plug of the ISDN multiplug into the RJ-45 socket of the COMpact S_0 module and connect the end devices to the ISDN multiplug.

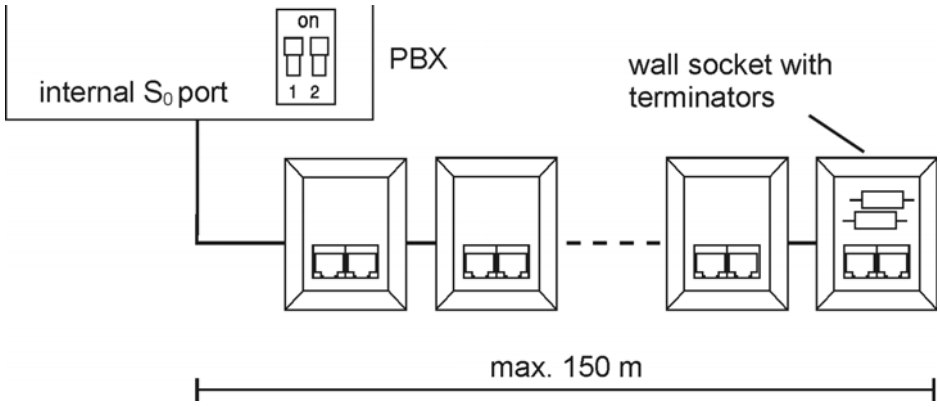
Available Bus Variants for the Installation of an Internal S_0 Bus

Several bus variants can be used for the installation of cables and wall sockets at the internal S_0 port.

Short Passive Bus in One Direction

The short passive bus with up to 12 wall sockets is suited for the connection of several end devices at medium distances. It supports cable lengths of up to 150 m. The terminators have to be switched on at the internal S_0 port.

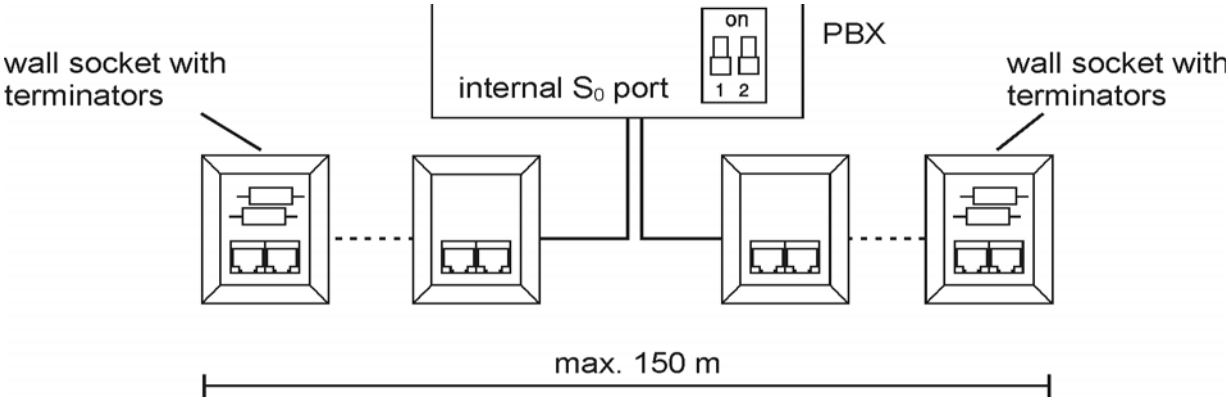
The figure below shows the setup of a short passive bus in one direction in a diagram.



Short Passive Bus in Two Directions

This bus variant is suited as an alternative to the short passive bus in one direction if the PBX is located in the center of the cables to be installed. The terminators at the internal S_0 port have to be switched off. See the following figure.

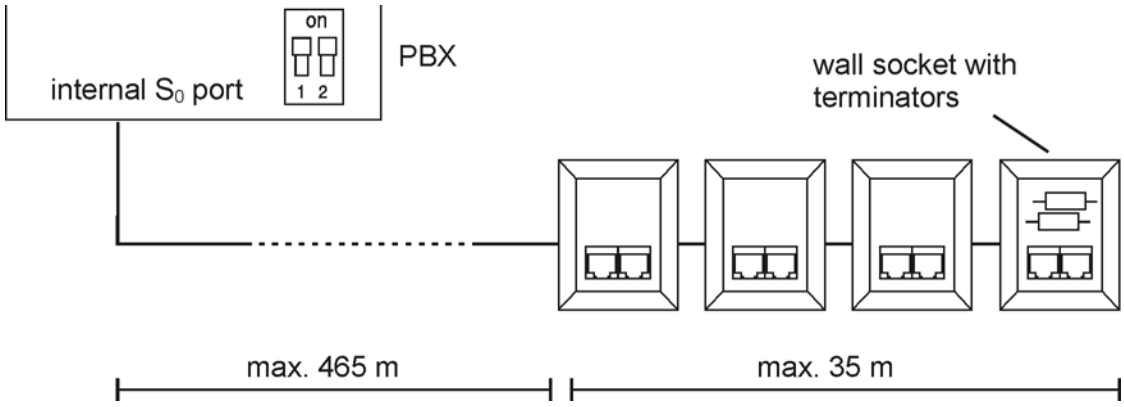
The figure below shows the setup of a short passive bus in two directions in a diagram.



Extended Passive Bus

The extended passive bus with up to 4 wall sockets at the end is suited for the connection of several end devices at large distances. Cable lengths of up to 500 m are supported. For this bus variant, the wall sockets are connected on the last 35 m. The first 465 m remain free. The terminators at the internal S_0 port have to be switched on. See the following figure.

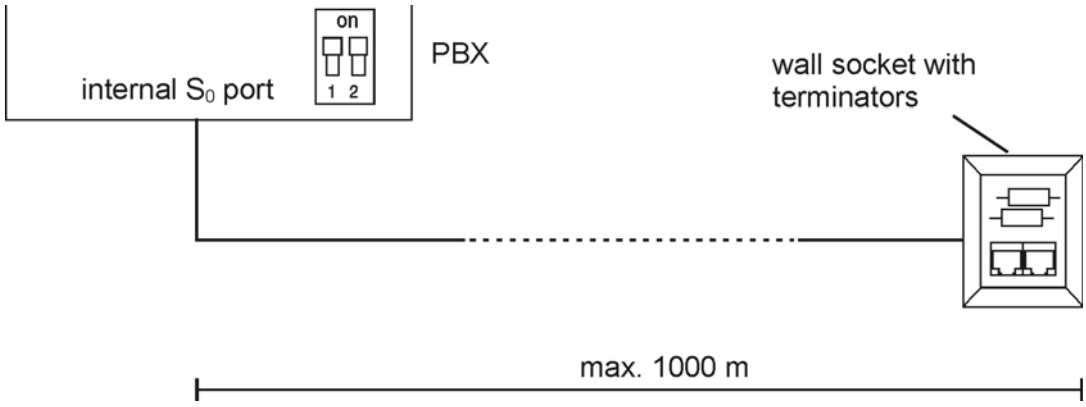
The figure below shows the setup of an extended passive bus in a diagram.



Point-to-Point Wiring

The point-to-pint wiring with a single wall socket at the end is suited for the connection of a single end device at a very large distance. It supports cable lengths of up to 1000 m. The terminators have to be switched on at the internal S_0 port. See the following figure.

The figure below shows the setup of a point-to-point wiring in a diagram.



Connecting the Cable and the Wall Sockets to the Internal S_0 Port (Internal S_0 Bus)

Warning: Power surges, which can occur during electrical storms, can cause life-threatening electric shocks or damage/destroy the PBX.

- Lay all the cables inside the building.
- Do not use the S_0 ports for connecting an external private branch exchange.

Requirements:

– *Cover panel is removed*

– *Internal S_0 port (only provided at the optionally available COMpact S_0 module or COMpact ISDN module)*

– *Terminators enabled or disabled at the internal S_0 port, depending on the bus variant*

– *Compliance with the maximum distance/line length between the devices, depending on the bus variant*

– *4-core installation cable (e. g. J-Y(St)Y 2x2x0,6), preferably star quad stranding*

– *Under unfavorable conditions, for example, near a strong transmitter or an electrical power line: screened cable*

– *ISDN wall sockets (e. g. IAE or UAE8)*

Note: If possible, only use wall sockets of one type.

– *Two terminators (100 Ohm; load capacity min. 0.25 W) for any wall socket at the end position*

1. Lay the lines according to the selected bus variant.
2. Attach the wires to the four terminal clamps at the internal S_0 port.

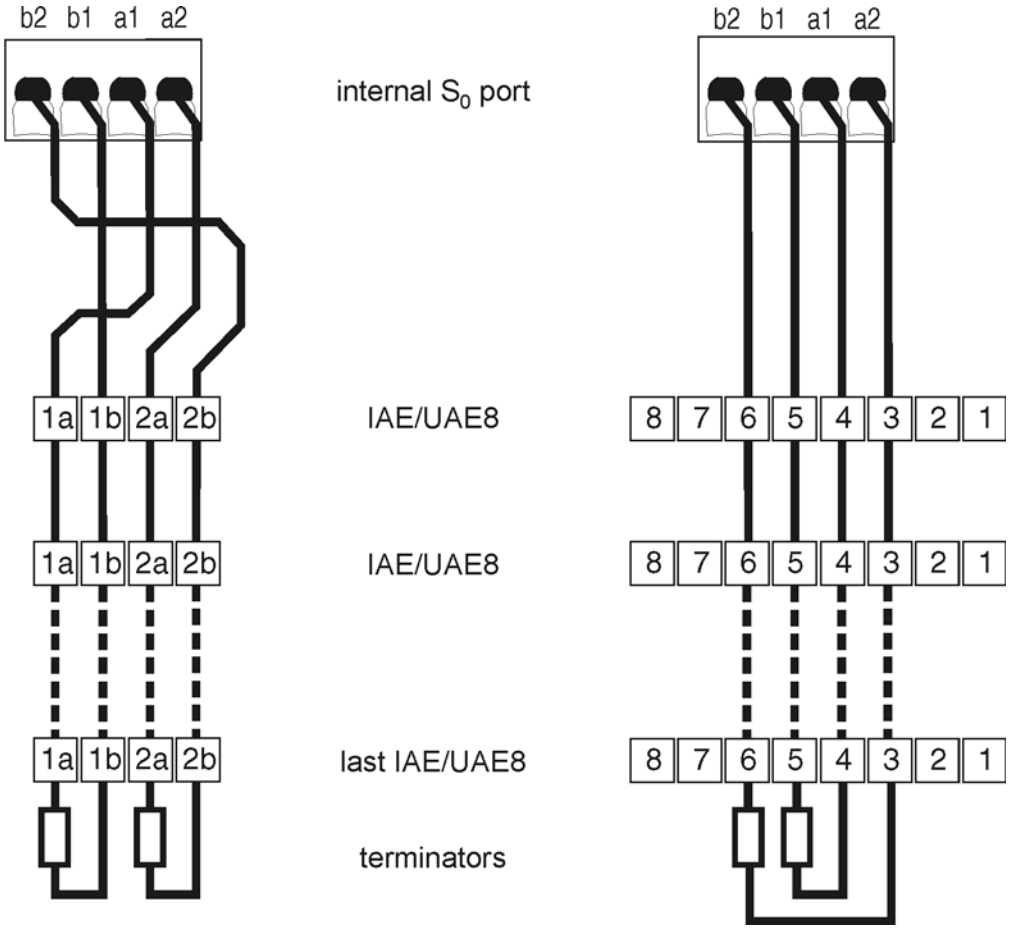
Note:

When assigning the individual wires, orient yourself with the identifiers subsequently listed or refer to VDE 0815 when identifiers deviate.

		Cable with Two Twin Wires	**Cable with Star Quad**
Physical circuit/ pair 1	a1	red	without ring
	b1	black	single rings, 17 mm spacing
Physical circuit/ pair 2	a2	white	double rings, 34 mm spacing
	b2	yellow	double rings, 17 mm spacing

3. Connect the IAE or UAE8 sockets to the terminal clamps at the internal S_0 port.

   The figure below shows the wiring of the terminal clamps with different wall sockets (IAE and UAE8) in a diagram, as well as the position of the terminators in the last wall socket.


b2 b1 a1 a2
internal S_0 port
b2 b1 a1 a2
1a 1b 2a 2b
IAE/UAE8
8 7 6 5 4 3 2 1
1a 1b 2a 2b
IAE/UAE8
8 7 6 5 4 3 2 1
1a 1b 2a 2b
last IAE/UAE8
8 7 6 5 4 3 2 1
terminators

4. Equip the last wall socket with two terminators.

Note: For a short passive bus in two directions, equip the wall sockets on both ends with terminators.

Further steps:

– *Connect the end devices to the wall sockets.*

Connecting ISDN End Devices Directly to the internal U_{P0} Port

Requirements:

– *Cover panel is removed*
– *Internal U_{P0} port (only provided at the optionally available COMpact ISDN module)*
– *Terminators switched on at the internal U_{P0} port*
– *Short distances between the devices (maximum length of the connection cable used: 10 m)*

> **Note:** If the end device is placed a larger distance away from the PBX, the cable and the wall sockets must be permanently installed.

– *U_{P0}/S_0 adapter*

> **Note:** For connecting one single COMfortel 1100/1500/2500/2500 AB system telephone, a U_{P0}/S_0 adapter is not necessary.

Depending on the type and number of end devices, proceed as follows.

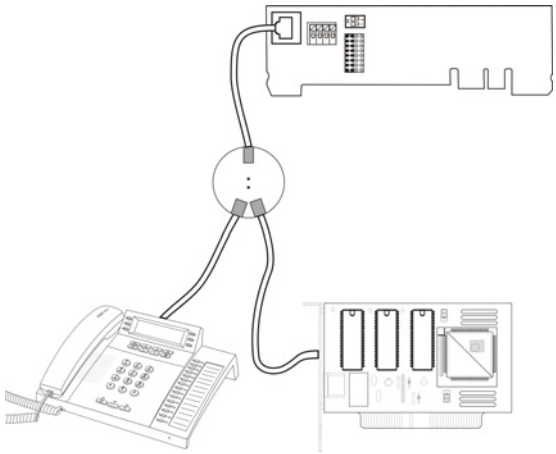
- Single COMfortel 1100/1500/2500/2500 AB:

  a) Insert the RJ-45 plug of the system telephone into the RJ-45 socket of the COMpact ISDN module.

- Multiple end devices:

  a) Insert the RJ-45 plug of the U_{P0}/S_0 adapter into the RJ-45 socket of the COMpact ISDN module.

  b) Insert the RJ-45 plug of the end device into the RJ-45 socket of the U_{P0}/S_0 adapter.



Connecting the Cable and the Wall Sockets to the Internal U_{P0} Port

Warning: Power surges, which can occur during electrical storms, can cause life-threatening electric shocks or damage/destroy the PBX.

- Lay all the cables inside the building.

Requirements:

– *Cover panel is removed*

– *Internal U_{P0} port (only provided at the optionally available COMpact ISDN module)*

– *Terminators enabled at the internal U_{P0} port*

– *Installation cable (z. B. J-Y(St)Y 2x2x0,6)*

– *Under unfavorable conditions, for example, near a strong transmitter or an electrical power line: screened cable*

– *ISDN wall sockets (e. g. IAE or UAE8)*

Caution: Terminals integrated in the wall sockets are destroyed and can damage the device.

- In comparison with the S_0 port, do not equip a line end at the U_{P0} port with terminals. These are already integrated in the end devices (COMfortel 1100/1500/2500/2500 AB or U_{P0}/S_0 adapter).
- Remove terminals which have already been integrated in the wall sockets for the usage at the U_{P0} port.

– *Compliance with the maximum distance/line length between the devices, depending on the cable used (with a pair diameter of 0.6 mm: unscreened max. 1000 m, screened max. 600 m)*

– *U_{P0}/S_0 adapter*

Note:

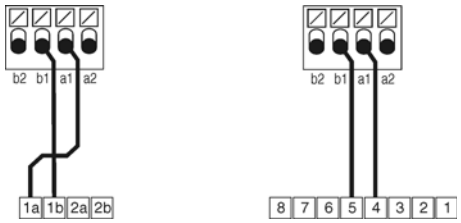
For connecting one single COMfortel 1100/1500/2500/2500 AB system telephone, a U_{P0}/S_0 adapter is not necessary.

You do not need an ISDN wall socket if you use a U_{P0}/S_0 adapter. The U_{P0}/S_0 adapter can be mounted on the wall or it can be connected to the PBX via the two screw terminals on the back.

1. Lay the line.

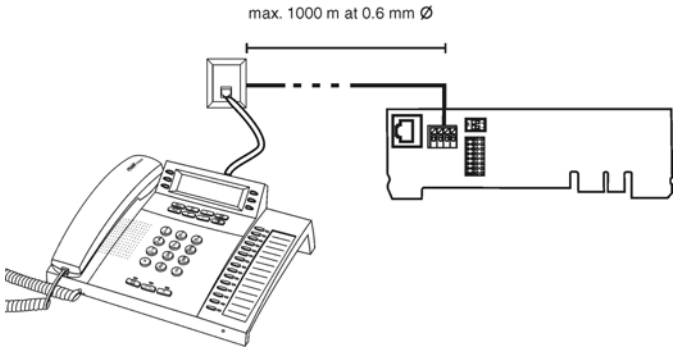
   Note: Prevent interferences. Avoid laying long lengths of parallel lines, especially next to mains. Twist the pairs.

2. Attach the wires to the two central terminal clamps at the internal U_{P0} port.

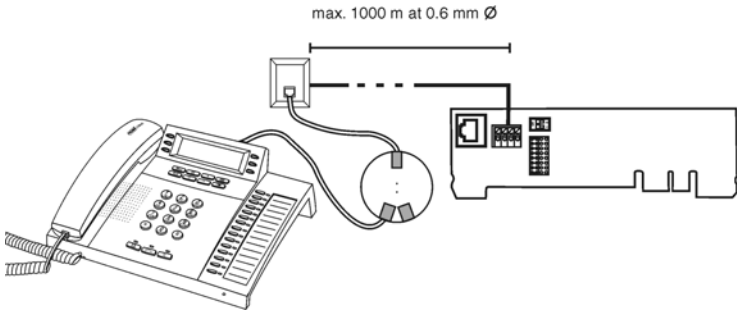


3. Connect:

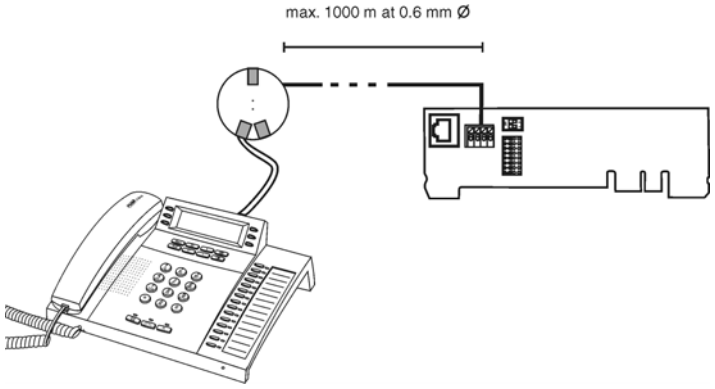
   - ISDN wall socket: Connect the IAE or UAE8 sockets to the terminal clamps at the internal U_{P0} port.



   Connect – if necessary – the U_{P0}/S_0 adapter.



- U_{P0}/S_0 adapter: Connect the two screw terminals on the back of the U_{P0}/S_0 adapter to the terminal clamps of the internal U_{P0} port.



Further steps:

– Connect the end devices to the wall sockets or to the sockets of the U_{P0}/S_0 adapter.

VoIP End Devices

By means of an activation in the Upgrade Center (for a fee), the PBX can be extended by two VoIP channels for internal and/or external use. The COMpact 3000 VoIP has one VoIP channel for external use and one VoIP channel for internal and/or external use by default.

When using the VoIP channels internally, the Ethernet port is suitable for connecting the following end devices:

- COMfortel VoIP 2500 AB system telephone (recommended, as of firmware version 4.0B)
- Standard VoIP end device (SIP)
- Soft phone (SIP)

> **Important:** Note that some standard VoIP end devices can only use the functions of the PBX to a very limited extent.

Connecting VoIP End Devices to the Ethernet Port

Requirements:

– *Internal VoIP channel (COMpact 3000 VoIP or VoIP channels obtained at the Upgrade Center and enabled by it)*

– *Line lengths between the devices shorter than 100 m*

– *Patch cable*

– *Single switch or individual network (LAN) with a recommended transmission rate of 100 Mbps*

> **Note:** For VoIP data communication in combination with the transmission of limited amounts of data, a data transmission rate in the LAN of 10 Mbps is sufficient under certain circumstances. For VoIP data communication in combination with the transmission of large amounts of data (e. g. downloads), we recommend upgrading to a data transmission rate of 100 Mbps. For this purpose, replace not only all of the active network components (e. g. switch and router), but also all of the passive network components (e. g. cables and wall sockets). For a reliable support of 100 Mbps, you need cables and wall sockets of at least Category 5 (CAT5).

– *To use DiffServ to prioritize speech packets: DiffServ support on all active network components available and enabled*

Note: When using a switch with PoE function, a separate power supply (e. g. via a power plug) is not normally required for connected VoIP telephones.

1. Insert the end of the cable into the Ethernet socket on the end device.
2. Insert the other end of the cable into the output socket on the switch or into an existing network outlet or directly into a RJ-45 socket „LAN“ on the PBX (only COMpact 3000 VoIP).

Further steps:

– *To finish commissioning, you need to configure an internal phone number for each end device in the configuration manager.*

Printers and Storage Media

The USB host is suitable for connecting one of the following end devices:

- USB memory stick
- USB hard disk
- USB printer

Moreover, an SD card slot is available for the application of an SD or SDHC memory card.

Caution: Removing the storage medium from the PBX during operation may lead to data loss. To remove the storage medium safely, you have the following possibilities:

- Prepare to remove the storage medium properly (**Eject** under **SERVICE > Memory > Storage medium**).
- Switch off the PBX before removing the storage medium.

Important:

The storage media used require an FAT16 or FAT32 formatting supporting long file names.

COMpact 3000 analog and ISDN: The connection of a hub is not supported.

Note: The USB host of the COMpact 3000 VoIP has two sockets and is suitable for connecting one printer and one storage medium.

Connecting the USB Printer and Storage Media to the USB Host

Requirements:

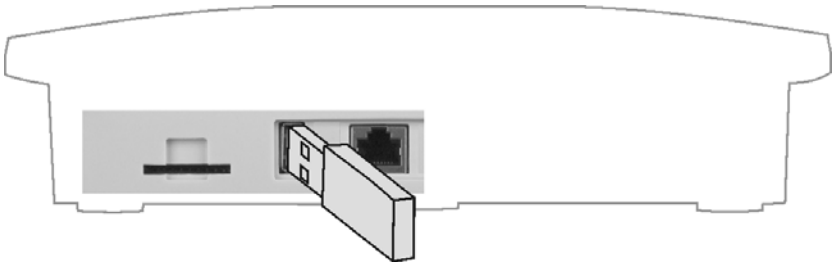
– Minimal distance between the devices

Note: The length of the USB cable used may be a maximum of 5 m in total.

Depending on the components you wish to connect, proceed as described in the following.

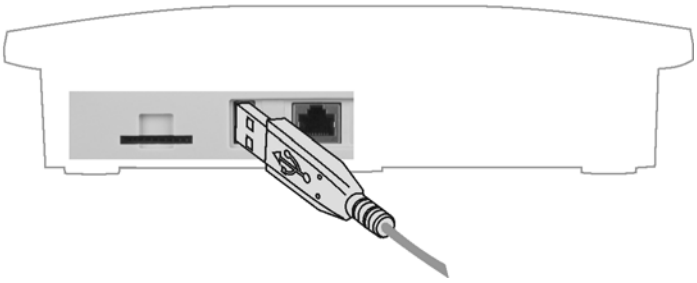
- Insert the USB memory stick into the USB socket.

The figure below shows the position of the USB socket at the side of the casing.



- Connect the USB device via a cable to the USB socket.

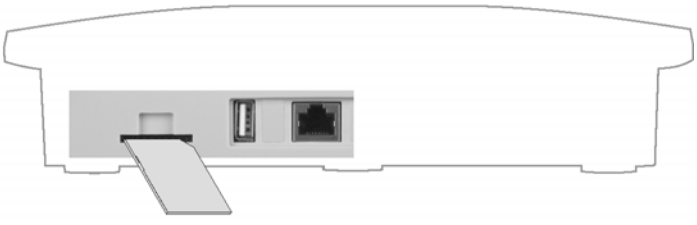
  The figure below shows the position of the USB socket at the side of the casing.



Inserting the SD Memory Card

- Insert the SD memory card with the contacts pointing downwards into the SD card slot.

  The following figure shows the position of the SD card slot at the side of the casing as well as the insert direction of the SD memory card.



Note: If you want to remove the SD memory card again, you can release it by lightly pressing on the frame.

Commissioning

The commissioning of the PBX includes switching on the PBX, as well as connecting the PC for configuration. If the VoIP and ISDN end devices are connected, they also have to be commissioned.

Turning on the PBX

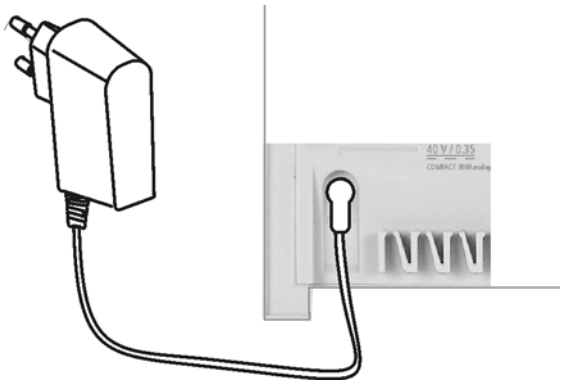
Requirements:

– *The power plug included in the package*

– *For connecting to the power plug (step 1): cover panel is removed*

1. Insert the barrel connector of the power plug into the barrel socket of the PBX.

   The figure in the following shows the position of the barrel socket under the cover panel, as well as the connection set up to the power plug.



2. Replace the cover panel.

3. Insert the power plug into a freely accessible 230 V Schuko socket

   The "Power" LED shines several seconds in red and orange, as specified below. If the LEDs shines green, the PBX is ready for operation.

“Power” LED:	**Status of the PBX:**
Shines red	The boot partition is being tested.
Shines orange	The hardware data and the kernel are being loaded from the partition.
Blinks orange	The kernel drivers are being loaded.
Shines orange	The PBX application is started.
Shines green	The PBX is ready for operation.

Note: If the “Power” LED remains continuously lit in red, an error has occurred. Please contact your dealer or the manufacturer directly.

Further steps:

– *Connect end devices with a separate power supply to the 230 V mains.*

Connecting the PC

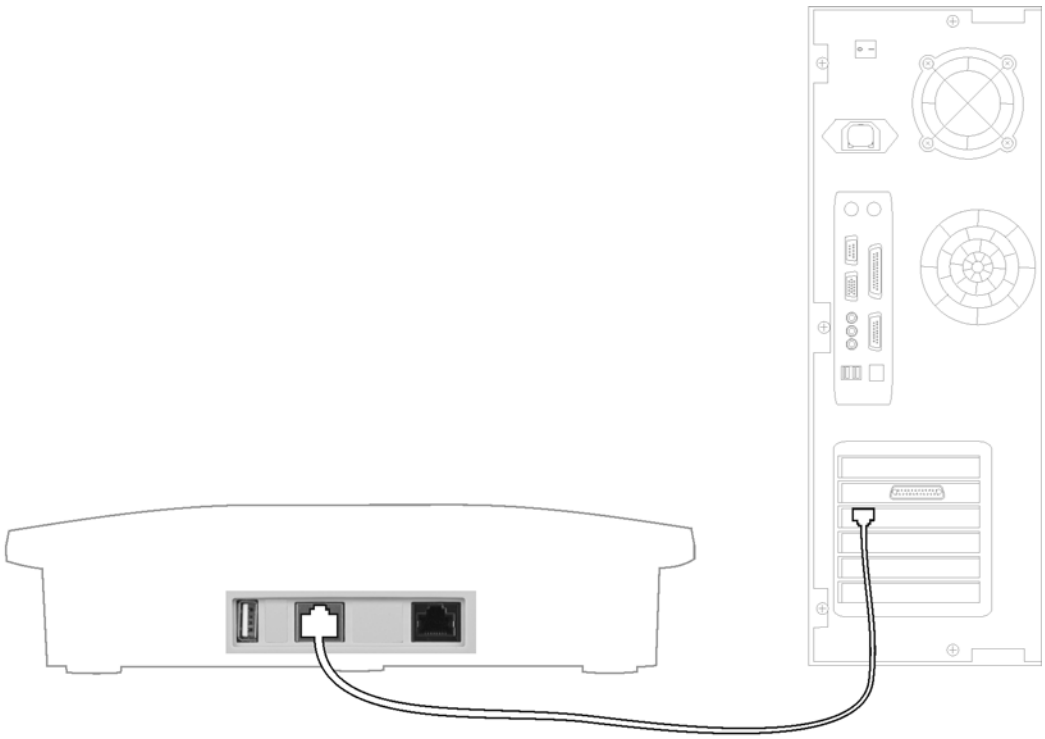
Requirements:

– *For direct connection to the Ethernet port: Short distance between the devices*

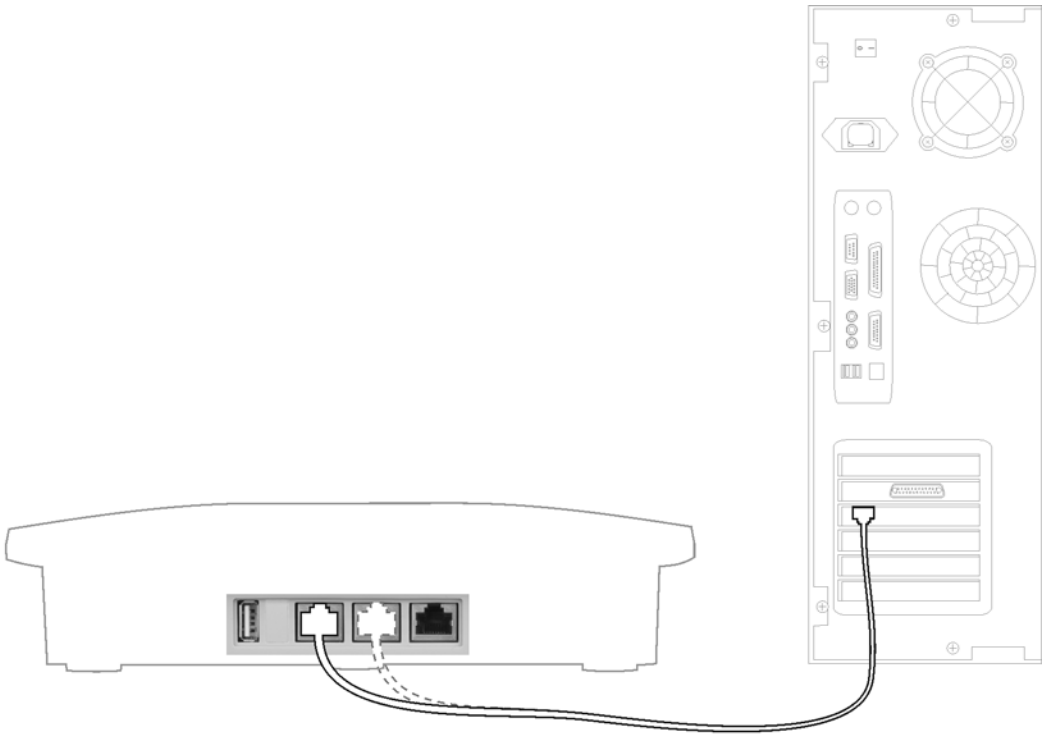
– *A patch cable*

1. Insert one end of the patch cable into the network socket on the PC.
2. Insert the other end of the patch cable into the RJ-45 socket on the PBX.

   COMpact 3000 analog und ISDN: The following figure shows the position of the RJ-45 socket at the side of the casing, as well as the set up connection to the PC.



COMpact 3000 VoIP: The following figure shows the position of the RJ-45 sockets at the side of the casing, as well as the set up connection to the PC.



Note:

Even if the Ethernet port on the PBX is already connected to the internal network (LAN), you also need to connect the PC to the internal network. For more information, contact your system administrator.

To configure the PBX via the Ethernet port, the PC and the PBX have to be connected to the same network. For the first contact to the PBX, consult the quick commissioning instructions shipped with the unit.

Putting Standard ISDN End Devices into Operation

Requirements:

– *The internal telephone number is configured on the S_0 port in question.*

1. Connect end devices with a separate power supply to the 230 V mains.
2. Enter the internal telephone number as an MSN for the end device.

   The end device is ready for operation.

Putting ISDN System Telephones into Operation

Requirements:

– *The internal telephone number is configured on the S_0 port in question.*

1. Connect end devices with a separate power supply to the 230 V mains.
2. Select the language.
3. Enter the internal telephone number as an MSN for the end device.

   The end device is ready for operation.

Putting VoIP End Devices into Operation

Requirements:

– *The internal telephone number is configured for VoIP.*

– *Recommended: The user PIN is configured for the internal telephone number.*

1. Connect end devices with a separate power supply to the 230 V mains.
2. When configuring the end device, create a provider named "PBX" and then enter the PBX IP address as the registrar and domain.
3. When configuring the end device, create an account for the provider "PBX" and enter the internal phone number for the user name and the associated user PIN as the password.

   The end device logs on to the PBX.

Putting VoIP System Telephones into Operation

Requirements:

– *The internal telephone number is configured for VoIP.*

– *Recommended: The user PIN is configured for the internal telephone number.*

Note: The prerequisite for the execution described here is that the telephone be operated as a DHCP client in the network. If this is not the case, refer to the Commissioning Instructions for the telephone.

1. Connect end devices with a separate power supply to the 230 V mains.
2. Select the language.
3. Enter the internal telephone number as an MSN for the end device.
4. If it is configured, enter the user PIN for the end device.

   The end device searches for the PBX.
5. Confirm the displayed IP address for the PBX.

   The end device logs on to the PBX.

Using the Configuration Manager

This section provides a general overview of the integrated configuration manager. It describes how to open and generally operate the configuration manager.

Moreover, you can find tips on how to use the Help function in a targeted and efficient manner.

Topics

– Configuration Manager (page 77)
– Help (page 90)

Configuration Manager

The configuration manager lets you easily configure the PBX on your computer. It is reachable over the integrated Web server on the PBX. The required PC is connected either directly to a Ethernet port on the PBX or it must be on the same network.

Minimum Requirements for the PC for Using the Configuration Manager

The computer must meet the following requirements:

- PC with Intel Pentium 1 GHz or compatible processor
- Windows XP (as of Service Pack 3), Windows Vista 32/64-bit (as of Service Pack 2), Windows 7 32/64-bit, Mac OS X (as of 10.4), Linux (as of Kernel 2.6)
- Memory (RAM: 256 MB, recommended 512MB; for Windows Vista/7: 1024 MB, for 64-bit 2048 MB
- Browser for the configuration: Recommended is Microsoft Internet Explorer as of version 7.0, Mozilla Firefox as of version 2.0, Safari as of version 5.0
- Network card (the computer must be equipped with a network card and the required driver installed)
- Internet Protocol (TCP/IP) (Transmission Control Protocol/Internet Protocol)
- Mouse or compatible pointing device
- SVGA graphics card with a resolution of 1024 x 768; and 65536 colors (16 bits)

Opening the Configuration Manager

Opening can be carried out at the following authorization levels:

- As an administrator
- As a sub-administrator
- As a user

Opening the Configuration Manager as a User

Requirements:

– *An existing Ethernet connection between the PC and the PBX or both the PC and the PBX on the same network*
– *Knowledge of the IP address on the PBX*
– *Configured user PIN*

Note: If the **UPnP service** is installed and enabled on the PC being used, the PBX is identified and selected as the "Auerswald PBX" device in the network environment. The configuration manager is then opened in the browser. Steps 1 and 2 are omitted. Proceed with Step 3.

---

1. Start a browser (for example, Mozilla Firefox or Microsoft Internet Explorer).
2. Enter the IP address of the PBX in the address field of the browser (for example, **http://192.168.178.4**).
3. Enter the internal telephone number of the user under **User name**.
4. Enter the associated user PIN under **PIN**.
5. Click **Log-in**.

   The configuration manager opens.

Further steps:

– *Configure the desired settings in sequence (page for page).*

Opening the Configuration Manager as a Sub-administrator

Requirements:

– *An existing Ethernet connection between the PC and the PBX or both the PC and the PBX on the same network*
– *Knowledge of the IP address on the PBX*
– *A configured sub-admin PIN*

Note: If the **UPnP service** is installed and enabled on the PC being used, the PBX is identified and selected as the "Auerswald PBX" device in the network

environment. The configuration manager is then opened in the browser. Steps 1 and 2 are omitted. Proceed with Step 3.

1. Start a browser (for example, Mozilla Firefox or Microsoft Internet Explorer).
2. Enter the IP address of the PBX in the address field of the browser (for example, **http://192.168.178.4**).
3. Under **User name**, enter the user name **sub-admin**.
4. Enter the sub-admin PIN for the sub-administrator under **PIN**.
5. Click **Log-in**.

   The configuration manager opens.

Note: If the sub-administrator enters his own internal telephone number as his user name, this log-in is recognized as a user log-in and the Web interface is displayed for the user.

Further steps:
– *Configure the desired settings in sequence (page for page).*

Open the configuration manager as an administrator

Requirements:
– *An existing Ethernet connection between the PC and the PBX or both the PC and the PBX on the same network*
– *Knowledge of the IP address on the PBX*
– *Knowledge of the admin PIN*

Note: If the **UPnP service** is installed and enabled on the PC being used, the PBX is identified and selected as the "Auerswald PBX" device in the network environment. The configuration manager is then opened in the browser. Steps 1 and 2 are omitted. Proceed with Step 3.

1. Start a browser (for example, Mozilla Firefox or Microsoft Internet Explorer).

2. Enter the IP address of the PBX in the address field of the browser (for example, **http://192.168.178.4**).
3. Under **User name**, enter the sub-admin user name.
4. Under **PIN**, enter the admin PIN.
5. Click **Log-in**.

   The configuration manager opens.

Further steps:
– *Configure the desired settings in sequence (page for page).*

Operating Instructions for the Configuration Manager

The operating instructions for the configuration manager contain the following topics:

- Navigation
- Logging Out
- Entry and Selection Fields
- Creating and Deleting Table Entries
- Symbols and Highlightings
- Display/Legibility

Configuration Manager Navigation

In the configuration manager, the main topics are listed in the horizontal navigation bar (main navigation). These are recognizable because they are written with capital letters.

The sub-topics of the main topics are listed in the vertical navigation bar to the left in the configuration manager. Depending on the main topic you click, the associated sub-topics are displayed under **Navigation**.

After clicking a sub-topic under **Navigation**, the page for the corresponding sub-topic opens. There are different topic areas listed that can be opened most of the time. Click to open the corresponding topic areas. Click to close the open topic areas. On some pages, the topic areas themselves also have sub-topics that can be opened. Click to open the sub-topics of the topic areas, and click to close them again.

Using the list field at the bottom to the left in the configuration manager, various overview lists can be opened. Select the overview list you want from the list field and click .

Logging Out

The link **Logout** is located in the upper area of the configuration manager.

Click **Logout** to return directly to the login page (log-in for the Web server of the system telephone).

Entry and Selection Fields

Important: Before leaving a page, all of the settings configured on the pages with the following labeled fields must be confirmed by clicking .

An empty field normally indicates that a name or number is to be entered. Click in the field in question and use the keyboard to enter a number or desired text.

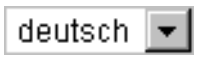
The following characters may not be used:

- " quotation marks
- $ dollar sign
- % percent sign
- < pointy bracket - smaller than
- > pointy bracket - higher than
- \ backslash
- ^ caret
- [ ] square brackets
- { } curly brackets

If increased security against Cross-Site Scripting (XSS) has been enabled under **CONFIGURATION > Server configuration > Network**, the following characters may also not be used:

- ‘ apostrophe
- # pound sign
- & and sign
- + plus sign
- \ slash

In order to change an existing entry, double-click the entry to be overwritten. The field then becomes blue and can either be overwritten directly or the existing text can be deleted using the delete/backspace key.



For functions that can be more than just switched on and off but only have a few options to choose from, the field already contains a default setting. To change this, click the opened list field to make a selection. Left-click the field to open the list field.

For some functions, a small circular button (option button) is located next to the setting options listed. The selected setting is indicated by a dot inside the circle. The setting is changed by clicking an empty circle. Selecting this setting option simultaneously deactivates any other previous selection.

A square check box indicates a switching function. An empty check box means "off" and "no"; a check mark on the other hand, means "on" and "yes". The switchover is done by simply left-clicking the box.

A bar on a horizontal line represents a slider. The bar can be moved on the line to configure the setting. To do this, place the cursor on the bar. It appears ✥. Press and hold the left mouse button down and slide the bar to the point you want.

Next to the line are informational or entry fields that display the exact values, when appropriate.

Creating and Deleting Table Entries

The configuration manager displays the lists in table format across multiple pages. Only table rows containing data are shown. A list can be lengthened or shortened.

Creating Entries

1. Fill out the empty entry fields in the lower table row.
2. Click ➕.
   The line is added to the list.
3. Repeat steps 1 and 2 to create additional entries.

Note: If you would like to simultaneously create multiple entries, enter – if available – the desired range into the entry fields **From** and **To** and click ➕.

Deleting Entries

1. Select or clear the check box in the first table column in front of the entries to be deleted.
   - ☑ Deletes the entry in question.
   - ☐ Does not delete the entry in question.
2. Click:

- 🗑 before the entry to be deleted and ✔ to delete an individual entry.
- **Selected rows** 🗑 in the last table row and **OK** to delete multiple entries.

Symbols and Highlightings

Page Symbols

Clicking the symbol switches you to the expert view.

Clicking the symbol switches you to the standard view.

Display: Topic area is open.

Clicking the symbol closes the sub-topics of the corresponding topic areas.

Display: Topic area is closed.

Clicking the symbol opens the sub-topics of the corresponding topic areas.

Display: Sub-topics of topic area are open.

Clicking the symbol closes the sub-topics of the corresponding topic area.

Display: Sub-topics of topic area are closed.

Clicking the symbol opens the sub-topics of the corresponding topic area.

Clicking the symbol opens the entire Help.

Clicking the symbol opens the Help page for the corresponding setting point.

Placing the cursor over the symbol displays or hides information about the corresponding Help topic (tooltip).

Clicking the symbol opens the overview selected in the associated list field.

Clicking the symbol saves the configured settings.

Clicking the symbol reverses the setting that was last configured, but not yet saved.

Clicking the symbol adds a bookmark in the browser.

Clicking the symbol switches you to the preceding page.

Clicking the symbol opens the dialog for subscribing to RSS feeds.

Table Symbols

Clicking the symbol saves the most recent entries and adds an empty table row.

Clicking the symbol saves the changes in the table row.

Clicking the symbol deletes the selected table row(s).

Clicking the symbol confirms the deletion of the selected table row(s).

Clicking the symbol shows additional fields (e.g., entry field for information) on the page.

Clicking the symbol opens a page for more advanced configurations for the table row in question.

The table is sorted in ascending order. The table was sorted according to the entries of the column in question.

Clicking the symbol sorts the table in descending order.

The table is sorted in descending order. The table was sorted according to the entries of the column in question.

Clicking the symbol sorts the table in ascending order.

Clicking the symbol next to a column heading sorts the table in ascending order according to the entries of the column in question.

Clicking the symbol shows the begin of the current data.

Clicking the symbol switches you to the preceding page.

Clicking the symbol switches you to the following page.

Clicking the symbol shows the end of the current data.

Highlightings

The configuration manager has a standard and an expert view. The additional topics in the expert view are highlighted via a shading.

Display/Legibility

The display/legibility of the configuration manager may be affected by browser settings, e. g.:

- Scaling/zooming of browsers (e. g. by pressing the CTRL key and scrolling with the mouse wheel)
- Ignoring the display settings of the configuration manager (e. g. in Internet Explorer 7 under **Tools > Internet Options > General** + **Accessibility**)

Note: If the configuration manager is not legible because of scaling/zooming of the browser, you can restore the original view (e. g. Internet Explorer 7 under **Page > Zoom > 100%** or Mozilla Firefox, Version 3.0.12 under **View > Zoom > Reset**.

Selecting the Language

You can select the language for the configuration manager.

The selection can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Server configuration > Network**.

   Note: The selection is also provided in the international model during the quick configuration using the configuration wizard.

2. Select the desired language in the **Language** list field under **Webserver configuration**.

   German

   English

Further steps:
– *Save your settings before you leave the page.*

Configuring the Portal Page

After logging into the configuration manager, the portal page is displayed. Each user (administrator, sub-administrator, user) can configure this page according to his needs.

Not only information windows but also windows, in which functions can be enabled or disabled, can be displayed. A total of up to ten windows can be displayed on a portal page.

Note: The portal page can be opened at any time in the configuration manager. To do this, click next to the PBX name at the top left of the configuration manager.

The configuration can be carried out as follows:

- Via the configuration manager

Requirements:

– Configuration manager, opened with sufficient authorization

1. Open the portal page.
2. Click .

   A list field is displayed.
3. Select a topic in the list field.
4. Click .

   The topic is placed on the portal page as a window.
5. Repeat steps 3 and 4 to place additional windows on the portal page.

Note:

The windows can be moved in sequence on the portal page.

A window can be deleted from the portal page. To do this, click in the upper right corner of the window.

Click to immediately end configuring the portal page. When this is done, the last settings configured, but not yet saved are not saved.

Further steps:

– Save your settings before you leave the page.

Switching Between Standard and Expert Views

For the configuration manager, there are two different views:

- Standard view: Enables a basic functional configuration on the PBX.

  Note: In the standard view, a button with E is available for switching to the expert view.

- Expert view: Adds topics to the standard view that should only be configured by those with the corresponding knowledge.

  Note:

  The additional topics are highlighted via a shading (Text).

In the expert view, a button with S is available for switching to the standard view. In addition, **Expert view** is visible next to the PBX name at the top.

Changes can be made as follows:

- Via the configuration manager

Requirements:

– Configuration manager, opened with sufficient authorization

- Click the corresponding letter key:
  - E Switches to the expert view.
  - S Switches to the standard view.

Using the Configuration Wizard

The configuration wizard automatically goes through all of the pages in the configuration manager that are required for a quick setup on the PBX (e.g., for the initial configuration).

It can be used as follows:

- Via the configuration manager

Requirements:

– Configuration manager, opened with sufficient authorization

1. Open the page **CONFIGURATION > Configuration Wizard**.

   The configuration wizard is started.

   Note: Pay attention to the information on the Web interface.

2. Click the corresponding buttons to switch from one page to another in the configuration wizard:
   - Switches to the following page in the configuration wizard.
   - Switches to the preceding page in the configuration wizard.
   - Ends the configuration wizard immediately.
   - Saves the configured settings.

Configuring the Port on the Web Server

Port 80 is used for accessing the Web server by default.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Server configuration > Network**.
2. Enter the port number (port) of the Web server in the **Port of the webserver** entry field under **Webserver configuration**. The following entries are possible:

   1 to **65535**

Further steps:

– *Save your settings before you leave the page.*

Configuring the Maximum Number of Simultaneously Logged-in Users

The maximum number of simultaneously logged-in users indicates how many users may, in addition to the administrator, log in simultaneously in the configuration manager.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Server configuration > Access and PBX data**.
2. Enter a value in the **Max. number of logged-in users at the same time** entry field under **Log-in**. The following entries are possible:

   0 to **10**: A range of 0 to 10 users can log in simultaneously in the configuration manager.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Time Lapse for Forced Logout

The time lapse for a forced logout defines after how many minutes a user is automatically logged out of the configuration manager if no action has been taken in the configuration manager within a configured time period.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Server configuration > Access and PBX data**.
2. Enter a value in the **Forced logout if no action happens after** entry field under **Log-in**. The following entries are possible:

   5 to **60**: After 5 to 60 minutes, you are automatically logged out if no action has been taken on the configuration manager during this period of time.

Further steps:

– *Save your settings before you leave the page.*

Help

Via the help you can access the entire instructions for the PBX.

Opening Help

Clicking below in the configuration manager opens the entire Help.

The **Help topics** navigation bar is located under the vertical navigation bar and contains many Help topics. Help topics are provided for either the opened configuration page or for the open topic areas.

At many setting points, the symbol is located next to the text of the entry, list and option fields as well as next the check boxes. If you place the cursor over the symbol, an information box with the corresponding Help topic appears (tool tip). Clicking the symbol opens the associated Help topic.

- Click the requested Help link in the **Help topics** navigation bar or click next to the corresponding setting point.

  The corresponding help page opens. You can navigate back and forward within the selected topic by clicking the and symbols.

  Note: You can always access the entire installation, operating and configuration instructions for the PBX using the navigation.

Navigating in the Help Window

There are several ways to navigate through the help.

Navigating via the Table of Contents

Click the **Table of Contents** tab (this text is dependent on the operating system used) to go to the table of contents (the tab is highlighted in yellow)

The table of contents will be displayed on the left-hand side of the help window as a directory tree.

By clicking one of the topics in the table of contents, you can open the belonging help page on the right-hand side of the help window.

The icon indicates that further topics are available under a specific topic. Click this icon to expand the subordinate topics. You can close the subordinate topics again by clicking the icon.

Note:

The table of contents area and the selected page are separated by a vertical line or a scroll bar. To enlarge the area (this automatically makes the other areas smaller), click and hold the cursor above the separator line and slide the line to the location you want. This setting only applies to the help window currently open.

The currently opened topic is highlighted in the table of contents (for example, with a grey background). Scrolling through the table of contents may cause this highlighting to disappear. By clicking the icon in the help window, you can display the currently open help page in the table of contents again.

Navigating via Expanding Texts

Some help texts contain expanding texts that flip down. Expanding text is indicated by a blue font and is underlined. In addition, the .icon is shown behind the expanding text.

You can expand the text by clicking the icon or the line. You can close the text again by clicking the icon or the line.

Navigating via the Index

Click the **Index** tab (this text is dependent on the operating system used) to go to the index (the tab is highlighted in yellow)

The index will be displayed on the left-hand side of the help window.

By clicking a letter of the alphabet, you can go directly to the keywords under this letter.

By clicking the desired keyword, you can open the belonging help page on the right-hand side of the help window.

Note:

The index area and the selected page are separated by a vertical line or a scroll bar. To enlarge the area (this automatically makes the other areas smaller), click and hold the cursor above the separator line and slide the line to the location you want. This setting only applies to the help window currently open.

By clicking the icon in the help window, you can display the currently open help page in the table of contents.

Navigating by Browsing

By clicking the icon, you can go to the next page of the instruction.

By clicking the icon, you can go to the previous page of the instruction.

Navigating via the Back Button

Clicking the icon takes you back to the previously opened help page.

Note: You may have to scroll back to the beginning of the currently displayed help page in order to access the icon.

Navigating via Links

Some help texts contain links to subordinate topics or to more detailed information. A link is indicated by a blue font and is underlined.

By clicking a link, you can go to the belonging help page.

Navigating via Breadcrumbs

The path you took to get to the currently open page is displayed above the help text. The path consists of the titles of the topics superordinate to the current topic. The superordinate topics are shown in a blue font and the current topic is shown in a grey font.

By clicking a superordinate topic, you can go to the belonging help page.

Searching in Help

You can search the entire Help for one or more terms.

1. Click the **Search** tab (this text is dependent on the operating system used).

   The tab is activated (it is highlighted in yellow). The left area of the help window contains a input field for the keywords and a button for starting the search.

2. Enter the desired term in the entry fields.

   Note:

   The character * can be used as a placeholder (wildcard) in a search. A search using Telef* results, e.g., in hits for telephone, telephoning and telephone book.

   If you enter several terms, the Help texts which contain all these keywords will be displayed irrespective of the sequence and context.

   ---

3. Click **Search** (this text is dependent on the operating system used).

   Help is searched; this may take some time. Afterwards, the topics that contain the search term are listed. The sequence within this list is determined by the number of hits and the importance of the search term found. The higher the value displayed under **in %**, the more important the Help text is to the search.

4. Click the desired **Title** in the list.

   The corresponding Help page will be opened on the right-hand side of the Help window.

   Note:

   Some browsers, e.g., Internet Explorer 7, also highlight the identified search terms within the Help text.

   The search area and the selected page are separated by a vertical line or a scroll bar. To enlarge the area (this automatically makes the other areas smaller), click and hold the cursor above the separator line and slide the line to the location you want. This setting only applies to the Help window currently open.

   By clicking the symbol in the Help window, you can display the currently open Help page in the table of contents.

Printing from within the Help

You can print the currently displayed help page using the print function of the help.

> **Note:**
>
> If the displayed help page includes expanding texts, expand all texts you want to print.
>
> If you want to print only part of the displayed help page, mark the corresponding text by clicking and drawing with the left mouse key. Afterwards, select **Selection** as print area in the print dialog box.

1. In the help window, click the icon.

   The print dialog box opens.

2. Select the desired printer.

3. Click **Print**.

Icons in the Help Window

Clicking the icon takes you back to the previously opened help page.

Clicking the icon takes you to the next page of the instruction.

Clicking the icon takes you back to the previous page of the instruction.

Clicking the icon displays the opened help page in the table of contents.

Display: The expanding text is currently closed.
You can open the text by clicking the icon or the line.

Display: The expanding text is currently shown.
You can hide the text by clicking the icon or the line.

Clicking the icon opens the print dialog box.

Display: Subordinate topics are closed.
Clicking the icon opens the subordinate topics.

Display: Subordinate topics are shown.
Clicking the icon closes the subordinate topics.

Display: The topic does not have any subordinate topics.
Clicking the icon opens the corresponding help page.

Telephoning

This section describes the various types of telephoning which are supported by your PBX.

Topics

– Incoming Calls (page 96)
– Call Waiting Calls (page 97)
– Outgoing Calls (page 100)
– Query Calls (page 109)
– Transfer (page 114)
– Conference Calls (page 119)

Incoming Calls

The following types of calls apply to incoming calls:

- External calls
- Internal calls
- Group calling (a call directed to a group)
- External callback calls
- Internal callback calls
- Call deblocker calls (calls enabled despite do-not-disturb)
- Wake-up calls
- Other calls

Accepting Incoming Calls

When you receive a call, proceed as described in the following.

- Pick up the receiver.

  You are connected with the caller.

Call Waiting Calls

During a call, you are made aware of another call (external or internal subscriber) by a call waiting signal.

Options During a Call Waiting Call

During a call waiting call, the following actions are possible:

Rejecting a Call Waiting Call

If you receive another call while you are already making a call and you do not want to speak with the second caller, or you do not want to interrupt the first call, you can reject the call waiting call. The caller receives a busy signal – in as far as no other telephones are called.

Accepting the Call Waiting Call

If you receive another call while you are already making a call and you would like to speak to the second caller, or you would like to end the current call, you can accept the call waiting call. After accepting, you are connected with the other caller. Your previous communication partner hears the hold music.

Disconnecting the Current Call and Accepting the Call Waiting Call

If you receive another call while you are already making a call and you would like to speak to the second caller, you can accept the call waiting call and disconnect the current call at the same time.

Rejecting a Call Waiting Call

Requirements:

– *The **call waiting** function has to be enabled for the subscriber.*

If a call waiting call is signaled, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).
2. Dial **0**.

The caller receives a busy signal – in as far as no other telephones are called.

Note:

You can also use this function on analog telephones, where it can be performed via the T-Net function key/menu (see manual for the telephone).

On ISDN and system phones, this function – if available – is performed via an existing function key or via the menu (see manual for the telephone).

Accepting the Call Waiting Call

Requirements:

– *The **call waiting** function has to be enabled for the subscriber.*

If a call waiting call is signaled, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).
2. Dial **2**.

   You are connected with the caller. Your previous communication partner hears the hold music.

Note:

You can also use this function on analog telephones, where it can be performed via the T-Net function key/menu (see manual for the telephone).

On ISDN and system phones, this function – if available – is performed via an existing function key or via the menu (see manual for the telephone).

Disconnecting the Current Call and Accepting the Call Waiting Call

Requirements:

– *The **call waiting** function has to be enabled for the subscriber.*

If a call waiting call is signaled, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).
2. Dial **1**.

   You are connected with the caller. Your previous call has been terminated.

Note:

You can also use this function on analog telephones, where it can be performed via the T-Net function key/menu (see manual for the telephone).

On ISDN and system phones, this function – if available – is performed via an existing function key or via the menu (see manual for the telephone).

Outgoing Calls

Outgoing calls are calls that you have initiated yourself.

Options for Outgoing Calls

An outgoing call can be initiated in two ways:

Initiating an Internal Call

If you wish to call an internal subscriber, you can initiate an internal call. Internal calls are free of charge. If you use a direct exchange line access, dial **** before dialling the telephone number.

Initiating an External Call

If you wish to call an external subscriber, you can initiate an external call. If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.

Initiating External Calls with Number Presentation Suppression

If you want to prevent your next communication partner from seeing your telephone number on his telephone display, you can suppress the telephone number display to your communication partner.

Dialling a Telephone Number on Direct Exchange Line Access

If your telephone has been configured as a direct exchange access point, you will hear an external dial tone directly after picking up the receiver. The manner in which an outgoing call is initiated is different than the manner in which a normal call is initiated, as described previously.

Additional Options

– Initiating Private Exchange Line Access (page 292)
– Initiating Private Exchange Line Access without a PIN (page 293)
– Initiating Targeted Exchange Line Access (page 302)
– Initiating Targeted VoIP Access (page 303)

Initiating an Internal Call

1. Pick up the receiver.
2. Enter an internal telephone number. The following entries are possible:

   **** and internal telephone number of the individual telephone** (If you do not use a direct exchange line access, omit the **.)

   **** and internal telephone number of the line group** (If you do not use a direct exchange line access, omit the **.)

   Once you have finished dialling the telephone number, the subscriber will be called.

Initiating an External Call

1. Pick up the receiver.
2. Enter an external telephone number. The following entries are possible:

   External telephone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)

   **** and short code number** (If you do not use a direct exchange line access, omit the **.)

   Once you have finished dialling the telephone number, the subscriber will be called.

Initiating External Calls with Number Presentation Suppression

Requirements:

– *The CLIR (suppression of telephone number display per call) service feature has been enabled by the network operator.*

1. Pick up the receiver.
2. Dial ***31#**.
3. Enter an external telephone number. The following entries are possible:

   External telephone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)

   **** and short code number** (If you do not use a direct exchange line access, omit the **.)

Once you have finished dialling the telephone number, the subscriber will be called.

The telephone number display suppression has been enabled for this call.

Note:

You can also use this function on analog telephones, where it can be performed via the T-Net function key/menu (see manual for the telephone).

On some ISDN telephones and on the COMfortel 1100/1500/2500/2500 AB/ VoIP 2500 AB system telephones, this function can also be called via an existing function key or via the menu (see manual for the telephone).

Dialling a Telephone Number on Direct Exchange Line Access

Requirements:

– *The subscriber has a direct exchange line access (as delivered ex-factory).*

In order to dial an external telephone number on a direct exchange line access point, pick up the receiver and enter the external telephone number without the exchange line access number.

In order to make other types of calls (e. g. internal or short-code), proceed as described in the following.

1. Pick up the receiver.
2. Dial **.
3. Enter an internal telephone number.

   Once you have finished dialling the telephone number, the subscriber will be called.

Options for Unsuccessful Calls

The following options are available for unsuccessful calls:

Initiating Callback on Busy

If you cannot get through to a busy subscriber despite repeated attempts, you can initiate a callback on busy. The PBX supports the service attribute "Automatic callback on busy (CCBS)". This service attribute is required for an external call.

If you have initiated a callback, as soon as the other subscriber has hung up the receiver to end the call, the PBX (for an internal call) or central office (for an external call) calls you. If you then pick up the receiver, the other subscriber will be called. If the other subscriber picks up the receiver, the connection for the call will be established. This deletes the callback procedure in the PBX/central office.

Initiating Reservation of Exchange Line on Busy

If you hear a busy signal before you have continued dialling the telephone number, all exchange lines (first and second B channel of the available external S_0 ports) are currently busy. You can initiate the reservation of an exchange line if you want your PBX to call you back as soon as a free line is available.

Initiating Callback on No Response

If the subscriber being called does not pick up the receiver, you can configure callback on no response in order to reach this subscriber without having to call him repeatedly. The function can be used for both internal and external calls. The service attribute "Callback on no response (CCNR)" is supported by the PBX. This service attribute is required for external calls.

If you have initiated a callback, as soon as the other subscriber has hung up the receiver to end the call, the PBX or central office calls you. If you then pick up the receiver, the other subscriber will be called. If the other subscriber picks up the receiver, the connection for the call will be established. This deletes the callback procedure in the PBX/central office.

Initiating Priority Call for Do-not-Disturb

If, for example, a person must absolutely be reached in an emergency despite the do-not-disturb function, the do-not-disturb function can be circumvented by a priority call from an internal telephone.

Initiating Internal Callback on Busy

If the connection you are calling is busy, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).
2. Dial ***37#**.

   You will hear the confirmation tone.
3. Hang up the receiver.

As soon as the connection is no longer busy, you are called by the central office for a period of 20 seconds.

4. Pick up the receiver to the make the callback.

Note: If you do not pick up the receiver within the 20 seconds during which the PBX calls you, the callback request will be deleted.

If you pick up the receiver, the subscriber will be called.

Note:

You can also use this function on analog telephones, where it can be performed via the T-Net function key/menu (see manual for the telephone).

On the COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB system telephones, this function is called via the menu (see manual for the telephone).

Initiating External Callback on Busy

Note: Initiating an external callback on busy is often not possible for analogue connections.

Requirements:

– *Fulfilling the technical requirements for a callback on busy (for instance, not all network providers provide callback on a Point-to-Point connection)*

If the connection you are calling is busy, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).

2. Dial ***37#**.

   You will hear the confirmation tone.

Note: If you do not hear a confirmation tone, the callback request has been rejected by the central office.

---

3. Hang up the receiver.

As soon as the connection is no longer busy, you will be called by the central office for a period of 20 seconds.

4. Pick up the receiver to the make the callback.

Note: If you do not pick up the receiver within the 20 seconds during which the central office calls you, the callback request will be deleted.

If you pick up the receiver, the subscriber will be called.

Note:

You also have the option of letting the central office call you as soon as one of the B channels on the previously called ISDN connection is available. If the subscriber for which you have set up the callback is telephoning on the other B channel, this callback will remain unsuccessful.

A callback will be stored in the central office for a duration of up to 45 minutes. If the called subscriber has not terminated his call until then, the callback will automatically be deleted.

You can also use this function on analog telephones, where it can be performed via the T-Net function key/menu (see manual for the telephone). Instead of the announcement by the central office, you will hear the confirmation tone.

On the COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB system telephones, this function is called via the menu (see manual for the telephone).

Deleting Callback on Busy

If you want to delete the callback on busy initiated by you ahead of time, proceed as described in the following.

1. Pick up the receiver.
2. Dial **#37#**.
3. Hang up the receiver.

   The callback on busy will be deleted.

Important: If you use an analog access for the external call, you will not be able to delete the callback.

Initiating Reservation of Exchange Line on Busy

If you hear the busy signal before finishing the dialling process, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).
2. Dial ***37#**.

   You will hear the confirmation tone.
3. Hang up the receiver.

   As soon as a line is available, you will be called back by the PBX.
4. Pick up the receiver.

   You will hear the external dial tone.
5. Dial an external telephone number without an exchange line access number.

> **Note:** When using ISDN telephones, you cannot dial directly after picking up the receiver of the ringing telephone (callback of the PBX). After picking up the receiver when the telephone rings, you will hear the confirmation tone instead of the external dial tone. Put down the receiver and pick it up again immediately. You can now dial as usual.

Initiating Internal Callback on No Response

If no one answers on the connection you are calling, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).
2. Dial ***37#**.

   You will hear the confirmation tone.
3. Hang up the receiver.

   As soon as the connection has been used, you are called by the PBX for a period of 20 seconds.
4. Pick up the receiver to the make the callback.

Note: If you do not pick up the receiver within the 20 seconds during which the PBX calls you, the callback request will be deleted.

If you pick up the receiver, the subscriber will be called.

Important: To use this function at ISDN telephones and system telephones or to delete it again, this function must be supported via a function key or via the menu by the respective telephone (see manual for the telephone).

Initiating External Callback on No Response

Requirements:

- *Fulfilling the technical requirements for a callback on no response (for instance, not all network providers provide callback on a Point-to-Point connection)*
- *Service feature CCNR (callback on no response) is enabled by the network provider.*
- *Use of an external S_0 port for the call (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*

If no one answers on the connection you are calling, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).
2. Dial ***37#**.

   You will hear the confirmation tone.

   Note: If you do not hear a confirmation tone, the callback request was rejected by the central office.

3. Hang up the receiver.

   As soon as the connection has been used, you are called by the central office for a period of 20 seconds.

4. Pick up the receiver to the make the callback.

   Note: If you do not pick up the receiver within the 20 seconds during which the central office calls you, the callback request will be deleted.

If you pick up the receiver, the subscriber will be called.

Note: A callback will be stored in the central office for a duration of up to 45 minutes. If the called subscriber has not terminated his call until then, the callback will automatically be deleted.

Important: To use this function at ISDN telephones and system telephones or to delete it again, this function must be supported via a function key or via the menu by the respective telephone (see manual for the telephone).

Initiating Priority Call for Do-Not-Disturb

If the internal telephone you are trying to call is busy because it is set to do-not-disturb, proceed as described in the following.

- Wait ten seconds.

  The subscriber is now called.

Terminating a Query Call

If you make a query call and the number is busy but there is no response, proceed as described in one of the following steps.

- The subscriber called for the query call does not respond: Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone) and dial **1**.

  You are now reconnected with the person waiting on the other line.

- The subscriber called for the query call is busy. Wait.

  You will automatically be reconnected with the communication partner waiting on the other line.

Note: On ISDN phones and system phones, this function – if available – is performed via an existing function key or via the menu (see manual for the telephone).

Query Calls

During a query call, you are talking with one subscriber while your previous communication partner is on hold on the PBX in the background listening to hold music.

A query call is initiated either by calling a query call subscriber, using pickup during a call, or by accepting a call signalled by call waiting.

Initiating a Query Call

Requirements:

– *For a query call with two external communication partners: two external call channels, as a minimum*

During a call, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).

2. Enter a telephone number. The following entries are possible:

   **** and internal telephone number of the individual telephone** (If you do not use a direct exchange line access, omit the **.)

   **** and internal telephone number of the line group** (If you do not use a direct exchange line access, omit the **.)

   External telephone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)

   **** and short code number** (If you do not use a direct exchange line access, omit the **.)

   The subscriber is called.

Note:

After pressing the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (for ISDN telephones), you can also initiate other call types (e. g. private calls), an InterCom announcement, or a pickup.

You can also use this function on analog telephones, where it can be performed via the T-Net function key/menu (see manual for the telephone).

On ISDN and system phones, this function – if available – is performed via an existing function key or via the menu (see manual for the telephone).

Options during a Query Call

The following actions are possible during a query call:

Splitting

You can use at the splitting function to switch between your two communication partners.

Terminating One of the Two Calls

When you end a query call and would like to continue talking with one of the communication partners, you can specifically end the call with the other communication partner separately. Of course, one of your communication partners can simply hang up so that you can continue talking with the other communication partner alone.

Connecting Both Communication Partners

If you would like to let your communication partners speak with each other, you can connect them.

Initiating a Query Call to Third Subscriber

If you want to connect a further communication partner during a query call, you can initiate a third call for this purpose. Both the first and second communication partner will be on hold in the background during this time.

Splitting

Requirements:

– *Initiated query call*

During a query call, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).
2. Dial **2**.

   You continue to conduct a query call. The other communication partner is now active.

Note:

You can also use this function on analog telephones, where it can be performed via the T-Net function key/menu (see manual for the telephone).

On ISDN and system phones, this function – if available – is performed via an existing function key or via the menu (see manual for the telephone).

Terminating One of the Two Calls

Requirements:

– Initiated query call

If one of your two communication partners hangs up the receiver, you will remain connected with the other one.

Alternatively, during a query call, proceed as described in one of the following steps.

- Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone) and dial **1**.

  The current call is disconnected.

  You will then make an one-to-one call with the communication partner who had previously been on hold.

- Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone) and dial **0**.

  The call in the background will be disconnected.

  You will then make an one-to-one call with the communication partner who had previously been active.

Note:

You can also use this function on analog telephones, where it can be performed via the T-Net function key/menu (see manual for the telephone).

On ISDN and system phones, this function – if available – is performed via an existing function key or via the menu (see manual for the telephone).

Connecting Both Communication Partners

Requirements:

– *Initiated query call*

– *To connect two external communication partners, the following is required: Authorization **Transfer of external calls to external** assigned to the subscriber*

During a query call, proceed as described in the following.

- Hang up the receiver.

  Both communication partners are connected with each other.

Initiating a Query Call to Third Subscriber

Requirements:

– *Initiated query call*

During a query call, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).
2. Dial **5**.
3. Enter a telephone number. The following entries are possible:

   **** and internal telephone number of the individual telephone** (If you do not use a direct exchange line access, omit the **.)

   **** and internal telephone number of the line group** (If you do not use a direct exchange line access, omit the **.)

   External telephone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)

   **** and short code number** (If you do not use a direct exchange line access, omit the **.)

   As soon as to the subscriber being called picks up the receiver, you will make a third call.

Important: To use this function on ISDN and system telephones, the function must be supported via a function key or via the menu by the respective telephone (see manual for the telephone).

---

4. Proceed as required.

   - To disconnect the third call and go back to the query call with the previously active communication partner, press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone) and dial **1**.

     You then make a query call with the communication partner who had previously been active. The call with the third communication partner is disconnected.

   - To disconnect the third call and go back to the query call with the communication partner who had previously been on hold, press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone) and dial **2**.

     You will then make a query call with the communication partner who had previously been on hold. The call with the third communication partner is disconnected.

   - To disconnect the previous calls and make an one-on-one call with the third communication partner, press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone) and dial **0**.

     You are making an one-on-one call with the third communication partner. The previous calls have been disconnected.

   - To connect the third communication partner to the second communication partner, press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone) and dial **4**.

     The second and the third communication partner are now connected with each other. They are making an one-on-one call with the first communication partner.

Note: If the third communication partner goes off-hook beforehand, you will get back to the previously active communication partner. Subsequently press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone) and dial **1**. Also use this function to terminate the call to this communication partner.

Transfer

A communication partner can be transferred or connected to an internal or external subscriber.

Options for Transferring a Call

During an existing call, the following options are available for transferring a call:

Transferring with Announcement

In order to transfer a call, first initiate a query call, announce the call and then connect both communication partners.

Transferring without Announcement

If you would like to transfer an external communication partner to another internal subscriber, you do not have to wait until the subscriber being called via the query call accepts the call; you can hang up the receiver while this call is being made. The internal subscriber will continue to be called.

Placing External Communication Partner in Waiting Loop

If the internal subscriber to which you would like to transfer an external communication partner is busy, you can place the external communication partner in the waiting loop of this subscriber.

Calling a Third Subscriber and Transferring to an Active Communication Partner

Assuming that you have gained an additional communication partner from a call, e. g. from accepting a call signaled by call waiting, and this second communication partner would like to be transferred now to somebody else. You can now initiate a third call that connects the second and third communication partners with each other and then continue telephoning with your first communication partner.

Additional Options

– Parking the Call Internally (page 207)

Transferring with Announcement

Requirements:

– *Initiated query call*

– *To connect two external communication partners, the following is required: Authorization* ***Transfer of external calls to external*** *assigned to the subscriber*

- Hang up the receiver during a query call.

  Both communication partners are connected with each other.

  Note: Some ISDN telephones may ring after hanging up the receiver and you may then be reconnected with your first communication partner after picking up the receiver. Use the manual for the telephone to check whether the "Transfer at a PBX" function has been enabled. If this has not been done, do this subsequently.

- If you want to initiate a new call immediately after the transfer, proceed during the query call as follows.

  a) Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).

  b) Dial **4**.

  Both communication partners are connected with each other.

  You will hear the internal dial tone.

  c) Initiate a new call.

  Important: A call transferred between two external communication partners is limited to a defined period of time. This is a security feature, since the transfer of the time announcement or of the weather forecast made by mistake, for instance, would lead to a very long call. You will be charged the fees for the transferred call by your network provider.

  Note:

  You can also use this function on analog telephones, where it can be performed via the T-Net function key/menu (see manual for the telephone).

  On some ISDN phones, this function – if available – can be called via an existing function key or via the menu (see manual for the telephone).

Transferring without Announcement

Requirements:

– *Internal transfer destination*

During a call, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).
2. Enter the internal telephone number. The following entries are possible:

   **** and internal telephone number of the individual telephone** (If you do not use a direct exchange line access, omit the **.)

   **** and internal telephone number of the line group** (If you do not use a direct exchange line access, omit the **.)
3. Wait until you hear the ring tone.
4. Hang up the receiver.

   Once the called subscriber accepts the call, he is connected with the external subscriber.

Note: If the subscriber being called does not accept the call, the call is transferred back to your telephone 60 seconds later (your telephone rings). If the call is not accepted after another 60 seconds, the call will be terminated by you. If your own telephone has become busy in the meantime, the procedure will already be canceled after the first 60 seconds and the external call will be disconnected.

Placing External Communication Partner in Waiting Loop

Requirements:

– *Internal transfer destination*

If the internal telephone to which you are trying to transfer a call is busy, proceed as described in the following.

1. Wait.

   You will automatically be reconnected with the waiting communication partner.

Note: On many ISDN phones, the termination of a query call on busy is not performed automatically, but via a function key or via the menu (see manual for the telephone).

2. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).
3. Dial **##07**.

   You will hear the confirmation tone.
4. Hang up the receiver.

   The external communication partner continues to listen to hold music.

   As soon as the internal subscriber hangs up the receiver, this external communication partner is called. Once he accepts the call, he is connected with the subscriber in the waiting loop.

Note: If the internal subscriber does not answer the call within 60 seconds or the line remains busy during the three-minute waiting time, the call will be transferred back to you. If you pick up the receiver, you will be reconnected with the external communication partner. You can then place him in the waiting loop again. If you do not pick up the call within 60 seconds, the exchange line connection is disconnected completely (for example, if your line was busy even for a short time).

Calling a Third Subscriber and Transferring to an Active Communication Partner

Requirements:

– *Initiated query call*

During a query call, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).
2. Dial **5**.

3. Enter a telephone number. The following entries are possible:

   exchange line access number + external call number (If you are using a direct exchange line access point, the leading exchange line access number is omitted.)

   short code number (If you are using a direct exchange line access point, the short code number ** is dialled first.)

   internal telephone number of the individual telephone (If you are using a direct exchange line access point, the telephone number ** is dialled first.)

   internal telephone number of the line group (If you are using a direct exchange line access point, the telephone number ** is dialled first.)

   As soon as the subscriber being called picks up the receiver, you will make a third call.

Important: To use this function on ISDN and system telephones, the function must be supported via a function key or via the menu by the respective telephone (see manual for the telephone).

---

4. Proceed as required.

   - To connect the second and third communication partner and to perform a one-to-one call with the first communication partner, press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone) and dial **4**.

     The second and the third communication partner are now connected with each other.

     Then return to conducting an individual call with your first communication partner.

   - To connect the second and third communication partner and to terminate the call with the first communication partner, hang up the receiver.

     The second and the third communication partner are now connected with each other.

     The first call will be signaled by the PBX if it was an external call. The internal call is disconnected.

Note: If the third communication partner is not ready to be transferred to the second communication partner, press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone) and dial **1**. You will then get back to the normal query call.

Conference Calls

During a conference call, you are talking with two subscribers simultaneously.

Initiating Conference Calls

Requirements:

– *A query call you initiated yourself*

During a query call, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).
2. Dial **3**.

   You are making a conference call.

Note:

If a handsfree telephone is involved in a conference with 3 internal subscribers, echo or singing effects may occur.

You can also use this function on analog telephones, where it can be performed via the T-Net function key/menu (see manual for the telephone).

On ISDN and system phones, this function – if available – is performed via an existing function key or via the menu (see manual for the telephone).

Options during a Conference Call

The following actions are possible during a conference call:

Initiating Splitting

When you end a conference call and would like to talk to each of the conference call partners separately one after the other, you can specifically put one of the conference call partners on hold in the background.

Connecting both Conference Call Partners

If you would like to leave a conference call that you initiated yourself and your conference call partners would like to continue talking with each other, you can connect both parties.

Ending a Conference Call

If you initiated the conference call yourself, you can end the conference call completely.

Initiating Splitting during a Conference Call

Requirements:

– *A conference call that you initiated yourself*

During a conference call, proceed as described in the following.

- Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone) and dial **2**.

  You then make an individual call with the communication partner who had previously been active. The other subscriber of the conference hears the hold music.

- Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone) and dial **1**.

  You then make a call with the communication partner who had previously been on hold in the background. The other subscriber of the conference hears the hold music.

Important: To use this function on ISDN and system telephones, the function must be supported via a function key or via the menu by the respective telephone (see manual for the telephone).

Note: You also can use this function this function on analog telephones, where it can be performed via the T-Net function key/menu (see manual for the telephone).

Connecting Both Conference Call Partners

Requirements:

– *A conference call that you initiated yourself*

– *To connect two external communication partners, the following is required: Authorization* ***Transfer of external calls to external*** *assigned to the subscriber*

During a conference call, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).
2. Dial **4**.
3. Hang up the receiver.

   Both conference call partners are connected with each other.

Important: To use this function at ISDN telephones and system telephones, the function must be supported via a function key or via the menu by the respective telephone (see manual for the telephone).

Ending Conference Call

Requirements:

– *A conference call that you initiated yourself*

During a conference call, proceed as described in the following.

- Hang up the receiver.

  The conference call is disconnected completely.

Managing the Telephone Book and Lists

This section describes the telephone book and the call data list.

Topics

– Telephone Book (page 123)
– Call Data (page 128)

Telephone Book

The telephone book is used for storing useful or frequently dialled telephone numbers along with the associated names. Existing entries are offered in the telephone book on a connected system telephone, automatically or after manual transmission.

If a telephone number that is entered in the telephone book is transmitted during a call, the assigned name is displayed instead of the telephone number is displayed on system telephones or on alpha-numeric CLIP-enabled end devices.

Short-code Numbers

In order to not always have to retype frequently-dialled telephone numbers on telephones that do not support a telephone book, these numbers can be saved under 2 to 4-digit short-code numbers. When short-code numbers are entered, the PBX automatically dials the exchange line access number on the PBX and the external telephone number saved under the short-code number.

Opening the Telephone Book

Opening can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

- Open the page **USER DATA > Telephone book**.

  The current entries are displayed in a table.

  Note:

  Click the column headings to change the sorting criteria. Click the column headings again to change the sort order.

  The telephone book can also be configured as an element on the portal page (**Telephone book**).

Navigation in the Telephone book

The telephone book can contain a large amount of data. To the view the data you want quickly, there are several tools available in the formatting bar:

Symbols

Clicking the symbol switches the display to the beginning of the data.

Clicking the symbol switches the display to the previous page.

Clicking the symbol switches the display to the following page.

Clicking the symbol switches the display to the end of the data.

Page ... of ...

From this list field, it is possible to switch directly to selected page.

Dialling from the Telephone Book

When the user is logged in on the Web interface of the configuration manager, the soft call function can be used via the telephone book, thereby allowing an external phone number to be dialled directly.

Dialling can be carried out as follows:

- Via the configuration manager

Requirements:

– ***Short-code authorization*** *for business calls assigned to the subscriber*

– *An open configuration manager with an authorization level of user*

1. Open the page **USER DATA > Telephone book**.
2. Click next to the desired telephone number under **External phone number**.

   The telephone number of the external subscriber is dialled.

Creating Entries

The telephone book provides space for up to 400 entries.

The creation can be carried out as follows:

- Via the configuration manager

Note: When creating an entry, take note of the later purpose of the entry. If the name of the telephone numbers entered should be displayed for calls, an entry from the external telephone numbers and a corresponding name must exist. The same applies if the entry in the telephone book on a system telephone should be used. However, if you would like to dial the telephone number on a standard telephone using a short-code, the entry must also contain a short-code dialling number.

Requirements:

– Configuration manager, opened with sufficient authorization

1. Open the page **USER DATA > Telephone book**.
2. If required, enter an internal telephone number as a short-code dialling number in the **From** entry field under **Short-code dialling number**. The following entries are possible:

   2 to 4 digits in the range of **10** to **9999**

   Note:

   Double allocation of a number is not possible.

   The telephone numbers 70, 80, 87, 701-706, 801-806, 875-879 and 8750-8799 cannot be freely allocated. They are required for internal PBX use.

   Using telephone numbers with few digits (two or three-digit numbers) inevitably restricts the possible supply of telephone numbers requiring more digits. For example, if the telephone number 12 is assigned, the telephone numbers 120-129 and 1200-1299 are no longer available.

   The default exchange line access number on the PBX is "0" in the factory settings; however, this can be changed. Note that changing the exchange line access number restricts the telephone number plan.

   ---

3. Enter an external telephone number in the **External phone number** entry field. The following entries are possible:

   Up to 20 digits

   Digits and the characters * and #

Note: Telephone numbers from the local telephone network can be entered without a prefix.

4. Enter a name for identification purposes in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters

5. Click .

6. Repeat step 2 to 5 to create additional entries.

Further steps:
– *Save your settings before you leave the page.*

Importing the Telephone Book

The columns **Short-code dialling number**, **External phone number** and **Name** can be imported from a text file (e.g., *.txt, *.csv).

The import can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *A telephone book saved on a storage medium (PC) as a text file (e.g., *.txt, *.csv), data arranged in rows and separated by semicolons*

1. Open the page **USER DATA > Telephone book**.

2. Click **Browse** (this text is dependent on the operating system used).

   A file selection dialog opens.

3. Select the file to be imported and click **Open** (this text is dependent on the operating system used).

4. Click **Import**.

   The telephone book is saved in the PBX.

Note: Entries already in the PBX and changed in the import file are not replaced, but are saved as new entries.

Exporting the Telephone Book

The columns **Short-code dialling number**, **External phone number** and **Name** can be exported into a text file (*.csv). There, it is arranged in rows and separated by semicolons.

The export can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Entries in the telephone book*

1. Open the page **USER DATA > Telephone book**.
2. Click **Export**.

   A dialog for downloading the text file "kurzwahlen.csv" opens.
3. Save the text file on the PC.

Overview of the Telephone Book Entries

The overview shows all of the telephone book entries (**Short-code dialling number**, **Name** and **External phone number**). When the user is logged in on the Web interface of the configuration manager, the soft call function can be used via the overview thereby allowing an external subscriber to be dialled directly ( ).

Note:

The overview can be opened in the configuration manager by selecting **Telephone book** in the list field next to and then clicking . To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

Call Data

The PBX has a call data memory in which up to 2,000 call data sets can be saved and protected from power outages.

Contents of the Call Data Set

A call data set contains the following information:

- Date at the beginning of the call
- Time at the beginning of the call
- Duration of the call
- Telephone number of the LCR provider – if used
- Telephone number of the external communication partner – if known
- Name of the external communication partner – if known
- Telephone number of the internal telephone (invoiced + real)
- Your own external phone number
- Charges for the call
- Billing factor
- Call direction
- Type of billing
- Call/type of call

Opening the Call Data List

The call data list shows the call data sets recorded in the call data memory.

> **Note:**
>
> The data in the call data list can be displayed through filters.
>
> The call data list can be configured as an element on the portal page (**Call data**).

Opening can be carried out as follows:

- Via the configuration manager

Requirements:

– Configuration manager, opened with sufficient authorization

- Open the page **USER DATA > Call data list**.

  The call data is displayed in a table.

Note:

Click the column headings to change the sorting criteria. Click the column headings again to change the sort order.

Use the browser menu bar to print out the call data list.

Navigation in the Call Data List

The call data list can contain a large amount of data. To the view the data you want quickly, there are several tools available in the formatting bar:

Symbols

Clicking the symbol switches the display to the beginning of the data.

Clicking the symbol switches the display to the previous page.

Clicking the symbol switches the display to the following page.

Clicking the symbol switches the display to the end of the data.

Rows per page

This list field can be used to define how many data sets should be displayed per page.

Page: ... of

From this list field, it is possible to switch directly to selected page.

Columns on the Call Data List

On the page **FUNCTIONS > Call data > Display** (Expert view), the columns to be displayed can be configured. In addition, new names can be assigned to the columns there in the call data list.

> **Note:** In the following lists, all of the columns are labeled using standard labels and the field labels. The field labels are located in brackets behind the standard label if they deviate from the standard labels.

Date

This column shows the day the call was started. The date information is displayed in DD.MM.YYYY format.

Time

This column shows the time the call was started. The time information is shown in HH:MM:SS format.

External Name (Ext. Subscribers)

This column shows the external telephone number of the communication partner:

- During an outgoing call, the telephone number dialled appears here.

  > **Note:** For private calls, the display of the last three numbers can be omitted. In this case, only one anonymized telephone number (the last three digits are displayed as asterisks - ***) is displayed here.

- For an incoming call, the column contains the telephone number that was transmitted from the caller (CLIP information). If the telephone number is unknown, -- is used.

  > **Important:** The telephone numbers that have been added to the call list from incoming VoIP calls can for the most part not be used for callbacks unless number conversion has been configured.

- For wake-up calls, the internal number of the person to be woken up is displayed.

This column shows the name of the external communication partner if this name has been saved in the telephone book on the PBX or transmitted via CNIP. For a call made via Voice over IP, the **Display name** is displayed when no entry for the VoIP phone number exists in the telephone book. The telephone number is then displayed in the **Info** column.

Telephone book: Clicking this symbol enters the name and telephone number of the communication partner in the telephone book.

Online name search: Clicking this symbol can add a name to the call data set after the fact via the online name search function as well as check or update the name.

Soft Call: Clicking this symbol dials the telephone number directly.

Note:

The online name search must be configured and enabled.

A soft call can only be made by a user logged into the configuration manager. For this, he needs short-code dialling number authority for business calls.

Direction or Bill Type (Type of Billing)

This column shows whether these are outgoing (initiated by the PBX) or incoming (made to the PBX) calls and the type of the call recorded.

The labels assigned on the page **FUNCTIONS > Call data > Display** are only used on printouts. The following symbols are displayed in the call data list:

← (grey)	Outgoing call (**Bill type** (**Type of billing**) is disabled)
← (red)	Failed outgoing call (**Bill type** (**Type of billing**) is enabled)
← (green)	Outgoing call (**Bill type** (**Type of billing**) is enabled)
↵ (red)	Failed outgoing call, rerouted over an external connection (**Bill type** (**Type of billing**) is enabled)
↵ (green)	Outgoing call, rerouted over an external connection (**Bill type** (**Type of billing**) is enabled)
→ (grey)	Incoming call (**Bill type** (**Type of billing**) is disabled)
→ (red)	Failed incoming call (**Bill type** (**Type of billing**) is enabled)
→ (green)	Incoming call (**Bill type** (**Type of billing**) is enabled)
↴ (red)	Failed incoming call, rerouted over an external connection (**Bill type** (**Type of billing**) is enabled)
↴ (green)	Incoming call, rerouted over an external connection (**Bill type** (**Type of billing**) is enabled)
● (red)	Failed call: The desired call could not be established (**Direction** is disabled)
● (green)	Successful call (**Bill type** (**Type of billing**) is enabled)

Connection No.

This column shows your own telephone number:

- For an outgoing call, the analog telephone number, the MSN, the PBX base number+DDI or the additional telephone numbers from the point-to-point connection are displayed over which the call is transmitted to the central office. For a call that is made via Voice over IP, the VoIP phone number is displayed.
- For an incoming call, the telephone number dialled by the caller is displayed.

Duration

This column shows how long the recorded call or the call lasted (format HH:MM:SS).

Charges

Note: If a **Currency name** has been entered in the PBX on the page **FUNCTIONS > Time and call allowance accounts > Settings** or **FUNCTIONS > Time accounts > Settings**, this name replaces the column heading.

This column shows the accrued amount for the call that was made: Data from the network provider (units are converted into charges using the **Cost per call unit** entered on the page **FUNCTIONS > Time and call allowance accounts > Settings** or **FUNCTIONS > Time and call allowance accounts > Settings** or **FUNCTIONS > Time accounts > Settings**).

Info

This column shows additional call data:

Note: Place your cursor on .

Scr no. invoice (Int. subscriber (invoice))

- For an outgoing business call, the subscriber number is displayed on the end device.
- For a private call:

  If the call is initiated with a PIN, the internal number associated with the PIN is displayed.

If the call is not initiated with a PIN, the internal number of the end device making the call is displayed.

- For an incoming call, the telephone number of the corresponding call distribution group is displayed.
- For a call through call, the external telephone number of the call through user is displayed.
- For wake-up calls, the internal number of the person to be woken up is displayed.

LCR No. (LCR number)

If an external phone number has been dialled via a telephone service provider (manual entry or automatic LCR), the telephone number of the LCR provider dialled is displayed.

Bill type (Type of billing): business (Business) or private (private)

You will see on the display whether it a business or private call (an external call with private exchange line access).

Call type

Additional information about the recorded calls is displayed:

- **Ex.line trnsf.** (**exchange line access via a transferred exchange line**): The exchange line access has been transferred (exchange line transfer)
- **CallThru** (**Call Through**): Call through call
- **Remote prog** (**remote programming**): Configuring the PBX via CAPI
- **normal** (**Normal**): Call over a land line connection or GSM

Note: An outgoing external call that was initiated over the public switched network or GSM by a call through user, is entered as a call through call.

- **CF ext.** (**Call Forwarding external**): Rerouting over an external connection: Call forwarding of your own external telephone number
- **VoIP**: Calls via Voice over IP

Note: An outgoing external call that was initiated via Voice over IP by a call through user is entered as a call through call.

- **Wake-up**: Wake-up calls

Billing (Billing factor)

The conversion factor for the charges is displayed. This value can be changed depending on the subscriber. Changes to the entries have not affect on calls until the changes have been applied.

> **Note:** The **billing factor (Billing)** is not visible in the display for a user logged in on the configuration manager. Instead, the calculated product from the transmitted charges and the **Billing factor (Billing)** can be seen in the user view under **Charges**.

Hidden Call Data

All call data that has not been enabled in the call data list for display (**FUNCTIONS > Call data > Display**).

Telephone Numbers in the External name Column (Ext. Subscriber)

The telephone number is displayed in the information field if a name is displayed in the **External name** (**Ext. subscriber**) column for this telephone number.

Exporting the Call Data List

The current data in the table view can be exported (gesp_dat.csv.gz) for further processing with external programs after it has been unzipped (e.g.,,. via Total Commander -> gespr_dat.csv).

The export can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *In the data in the call data list*

1. Open the page **USER DATA > Call data list**.
2. Click **Export**.

   A dialog for downloading the compressed file "gesp_dat.csv.gz" opens.
3. Save the file on the PC.

Deleting Call Data

The current data in the table view can be deleted.

Deleting can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *The data in the call data list*

1. Open the page **USER DATA > Call data list**.
2. Click **Delete all calls**.

Dialling from the Call Data List (Soft Call)

When the user is logged in on the Web interface of the configuration manager, the soft call function can be used via the call data list, thereby allowing an external subscriber to be dialled directly.

Dialling can be carried out as follows:

- Via the configuration manager

Requirements:

– ***Short-code authorization*** *for business calls assigned to the subscriber*

– *Calls recorded for the subscriber and recorded in the call data list*

– *An open configuration manager with an authorization level of user*

– *In the* ***Ext. subscriber*** *column displayed in the call data list*

1. Open the page **USER DATA > Call data list**.

   The call data is displayed in a table.

2. Click in the **External name** column.

   Note: On the page **FUNCTIONS > Call data > Display**, new labels can be given to the columns in the call data list.

   The telephone number of the external subscriber is dialled.

Configuring the Display

The call data recorded in the call data memory can be displayed in the call data list or printed out. This allows you to select the data to be displayed, and create separate labels for the table columns.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **FUNCTIONS > Call data > Display**.
2. Select which data should be displayed or not:
   - Call data list: Select or clear the corresponding check box in the column to display the call data in a separate column in the call data list.
   - Printout: Select or clear the corresponding check box in the column .

   ☑ Enables the output.

   ☐ Disables the output.

   Note:

   The data for **LCRNr** (**LCR number**), **Scr no. invoice** (**Int. subscriber (invoice)**), **Billing** (**Billing factor**), types of billing **bus.** (**Business**)/**private** (**Private**) and **Type of call** are always displayed in the **Info** column of the call data list.

   All call data that has not been enabled for display in the call data list is displayed in the **Info** column of the call data list.
3. Enter the desired text in the entry fields under **New description**. The following entries are possible:

   Digits and characters

   Up to 16 digits

Further steps:

– *Save your settings before you leave the page.*

Switching Automatic Memory Overwriting On/Off

If the automatic overwriting of the memory is enabled, new calls are recorded in a full call data memory by overwriting the oldest data.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **FUNCTIONS > Call data > Memory use**.
2. Select or clear the **Overwrite the memory automatically** check box under **Memory full**.
   - ☑ Enables the automatic overwriting of the memory.
   - ☐ Disables the automatic overwriting of the memory.

Further steps:

– *Save your settings before you leave the page.*

Switching the Special Dial Tone On/Off when Call Data Memory Full

If the special dial tone is enabled, the PBX on the subscriber in question generates a special dial tone to signal a full call data memory.

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Signalization by tones**.

2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **When the call data memory has reached capacity** check box under **Special dial tone**.
   - ☑ Enables the special dial tone when the call data memory has reached the specified capacity.
   - ☐ Disables the special dial tone.
4. Open the page **FUNCTIONS > Call data > Memory use**.
5. Enter a value in the **Special dial tone when call data memory is full** entry field under **Memory full**. The following entries are possible:

   1 to **100** percent.

Further steps:
– Save your settings before you leave the page.

Configuring Calls to be Recorded for the Call Data List

The calls to be recorded can be selected in order to prevent the call data memory from filling up too quickly.

> **Note:** The transmission of the charge information can be disabled for an ISDN connection (**CONFIGURATION > External phone numbers > ISDN connection > Name and functions**).

The following subgroups can be recorded:

- **Chargeable calls**: Outgoing chargeable calls and failed outgoing calls for which charges have accrued (e.g., for CF via the network provider (transfer charge)
- **Free of charge/calls without charge information**: Outgoing calls that are free of charge or for which no charge information is transmitted
  - **Successful only**: Only outgoing calls that are free of charge or for which no charge information is transmitted (failed calls are not recorded)
- **Private calls with partial telephone number privacy**: Due to reasons of privacy protection, the transparency of external telephone numbers during outgoing private calls can be dispensed with. When this is done, the last three digits of the telephone number dialled is displayed as asterisks (*). The remaining data from each call will continue to be recorded.

- **Successful**: Incoming calls
  - **Only with charges**: Only incoming calls that accrue charges (e.g., collect calls)
- **Unsuccessful**: Incoming calls that do not result in a connected call.
- **Charges independent from calls**: Incoming calls with additional charges (e.g., the transfer charge for collect calls)

- **Record Wake-up calls in the call database**: Wake-up calls to internal subscribers (see **FUNCTIONS > Wake-up times**)

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*

1. Open the page **FUNCTIONS > Call data > Memory use**.
2. Select or clear the check box for the type of call (**Recording outgoing calls**, **Recording incoming calls**, **Recording wake-up calls**).
   ☑ Enables recording.
   ☐ Disables recording. (No other action is required.)
3. If necessary, select or clear the corresponding check box for the sub-selection:
   ☑ Enables recording.
   ☐ Disables recording.

Further steps:
– *Save your settings before you leave the page.*

Switching Partial Telephone Number Privacy for Private Calls On/Off

Due to reasons of privacy protection, the transparency of external telephone numbers during outgoing private calls can be dispensed with. When this is done, the last three digits of the telephone number dialled is displayed as asterisks (*). The remaining data from each call will continue to be recorded.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*

1. Open the page **FUNCTIONS > Call data > Memory use**.
2. Select or clear the **Recording outgoing calls** check box.
   ☑ Enables the recording of outgoing calls.
   ☐ Disables the recording of outgoing calls. (No other action is required.)
3. Select or clear the **Private calls with partial telephone number privacy** check box.
   ☑ Enables partial telephone number privacy for private calls.
   ☐ Disables partial telephone number privacy for private calls.

Further steps:
– *Save your settings before you leave the page.*

Configuring a Currency Name

The currency name indicates which abbreviation is used for the currency in the configuration manager (e.g., "EUR" for Euros).

Note: The currency name is used, e.g., on the page **USER DATA > Call data list**.

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open one of the following pages:
   - COMpact 3000 analog/VoIP: **FUNCTIONS > Time account > Settings**

- COMpact 3000 ISDN: **FUNCTIONS > Time and call allowance accounts > Settings**

2. Enter the desired abbreviation in the **Currency name** entry field. The following entries are possible:

   Up to 3 digits

   Digits and characters

Further steps:
– *Save your settings before you leave the page.*

Configuring the Cost per Call Unit

The cost per call unit are used for internal calculations and the display.

The value entered here refers to the currency entered under **Currency name** (e.g., for the **Currency name EUR** 0.0600 for 6 cents).

Note: For Least Cost Routing (LCR), the tariff information of call-by-call-providers is saved in the PBX. This data (prices + metering pulse interval) replace the cost per call unit entered here for all LCR calls.

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with a sufficient authority level*
– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*

1. Open the page **FUNCTIONS > Time and call allowance accounts > Settings**.

2. Enter a value in the **Cost per call unit** entry field. The following entries are possible:

   Price in 00.0000 format: Specifies the cost per call unit from 0.0000 to 99.9999.

   Digits and separator "," (comma)

Further steps:
– *Save your settings before you leave the page.*

Configuring the Billing Factor

The billing factor indicates the value used to convert the subscriber's telephone costs.

This factor is used to multiply the charges transmitted from the network provider or the calculated charges. The telephone costs calculated in this way are used in the call data list.

The configuration can be made as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Exchange line settings**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Enter a value in the **Billing factor** entry field. The following entries are possible:

   Factor in 0.00 format

   Digits and separator "," (comma)

   0.01 to **0.99**: Reduces the telephone costs for the subscriber

   1.00: The charges accrued correspond to the telephone costs of the subscriber

   1.01 to **9.99**: Increases the telephone costs for the subscriber

Further steps:

– *Save your settings before you leave the page.*

Switching Charge Information On/Off

If the charge information is enabled, the charge information transmitted by the network provider is recorded by the PBX and can be evaluated for the individual calls.

Deactivating this function is only advisable if it causes problems on the external connection (this depends on the network provider/country).

Note: The transfer of charge information is not supported on analog connections.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the ISDN connection in question.

   A page opens for configuring the ISDN connection.
3. Open the page **ISDN connection > Name and functions**.
4. Select or clear the **Charge information** check box.
   - ☑ Enables the recording of transmitted charge information.
   - ☐ Disables the recording of transmitted charge information.

Further steps:

– *Save your settings before you leave the page.*

Deleting the List of Single Call Records

This function allows, e.g., a committee member to delete the telephone numbers of his communication partners in the call data completely in order to ensure that these numbers are not viewed by unauthorized persons. The part of the data required for billing the call remains intact.

Deleting can be carried out as follows:

- Using a character string on the internal telephone

Requirements:

– *Authorization **Delete list of single call records** assigned to the subscriber*

– *User PIN configured for the subscriber*

– *Knowledge of the user PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the user PIN.
4. Dial ***51#**.

   The telephone number of the communication partner from the last call made is deleted.

Switching Authorization for Deleting Single Call Records On/Off

If authorization for deleting single call records is enabled, the subscriber in question can delete the telephone number of the communication partner from the last call made to ensure that this number is not viewed by unauthorized persons.

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Authorizations**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **Delete list of single call records** check box.
   - ☑ Enables authorization for deleting the list of single call records.
   - ☐ Disables authorization for deleting the list of single call records.

Further steps:

– *Save your settings before you leave the page.*

Managing Voice Mailboxes and Fax Boxes

This section describes how to manage voice mail and fax boxes on the PBX.

Topics

– Memory Management for the Voice Mail and Fax Function (page 146)
– Voice Mailbox (page 147)
– Fax Box (page 168)
– RSS Feed (page 177)
– E-mail (page 181)

Memory Management for the Voice Mail and Fax Function

Announcements, language files as well as incoming faxes and voice messages are saved on a storage medium inserted in the PBX (USB memory stick or SD card).

A directory structure is automatically created on the storage medium; you should not change this structure. The root directory is **\auerswald**. On top of that, the path **\auerswald\mailbox** is created; it contains the following directories:

- **\language**: Contains the language files.
- **\announcements**: Contains the announcements for the voice mailboxes.
- **\mb000000** to **\mb000012**: Contains the voice messages and faxes in the voice mail and fax boxes.

Caution: Removing the storage medium from the PBX during operation may lead to data loss. To remove the storage medium safely, you have the following possibilities:

- Prepare to remove the storage medium properly (**Eject** under **SERVICE > Memory > Storage medium**).
- Switch off the PBX before removing the storage medium.

Note: The inserted storage medium must have at least more than 50 MB of free memory (controlled under **SERVICE > Memory > Storage medium**).

Voice Mailbox

The voice mailbox functions like an answering machine. Depending on the configuration, it takes incoming calls and saves recorded messages as WAVE files on the USB memory stick or on the SD card on the PBX.

Configuring a Voice Mailbox

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*

1. Create a voice mailbox. When this is done, the voice mailbox is assigned a telephone number and a name.
2. Enable the voice mailbox you created.
3. Select – if available – the announcement you want.

   Note: Up to ten announcements can be saved from a PC into the PBX via an internal telephone. In the factory setting, the default announcement is available and is automatically played back.

4. Configure the maximum recording time per call and for the entire voice mailbox.

   Note: A voice mailbox can store up to 100 messages.

Further steps:
– *If desired, configure additional settings for signaling via RSS feed or e-mail as well as for remote access.*

Creating a Voice Mailbox

A maximum of six voice mailboxes can be created. The voice mailboxes are already installed as a part of the factory settings (telephone numbers 701 to 706). You can change or delete them.

The creation can be carried out as follows:

- Via the configuration manager

Requirements:
– An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port
– Configuration manager, opened with sufficient authorization

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Boxes**.
2. If necessary, change one of the telephone numbers displayed in the line of the corresponding voice mailbox in the **Telephone number** entry field or enter a new telephone number in the lowest line of the **Telephone number** entry field. The following entries are possible:

   Up to 4 digits

   Digits
3. Enter the desired name in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters
4. If necessary, select the **Voice mailbox** option in the **Type** list field.

Further steps:
– Save your settings before you leave the page.

Switching a Voice Mailbox On/Off

If the voice mailbox is enabled, incoming calls can be received by the voice mailbox. The following configuration options are available:

- **immediately**: An incoming call is immediately received by the voice mailbox.

- **on busy**: A call is only accepted by the voice mailbox if the subscriber is busy.
- **on no reply**: If the subscriber being called does not accept the call within the configured delay time for the voice mailboxes, the call is accepted by the voice mailbox.
- **on no reply + on busy**: If the subscriber being called does not accept the call within the configured delay time for the voice mailboxes or is busy, the call is accepted by the voice mailbox.

Switching this on/off can be done as follows:

- Separately for external telephone numbers
- Separately for configurations
- Via the configuration manager
- Using a character string on the internal telephone
- Using a character string on an external telephone

Switching the Voice Mailbox On/Off via the Configuration Manager

Requirements:
– An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port
– Configuration manager, opened with sufficient authorization

1. Open the page **CONFIGURATION > Call distribution > Create call distribution**.

   Across the table, all of the separate external telephone numbers entered and the corresponding group phone numbers (call distribution groups) are displayed.

   Note: Click ▶ to scroll horizontally across the table and display other telephone numbers. Click ◀ to scroll back again.

2. Select one of the following options in the **Voice mail function** list field in the column of the corresponding telephone number:

   off: Disables the voice mailbox.

   immediately: Disables the voice mailbox immediately.

   on busy: Enables the voice mailbox on busy.

   on no reply: Enables the voice mailbox on no reply.

   on no reply + on busy: Enables the voice mailbox on no reply and on busy.

3. In the **Voice mailbox** list field, select the voice mailbox you want in column of the corresponding telephone number.

Note: Click next to the **Voice mailbox** list field to go to the page for creating voice mailboxes.

---

4. Only when **on no reply** or **on no reply + on busy** under **Voice mail function** has been selected: Open the page **CONFIGURATION > Call distribution > Settings** and enter a value in the **Delay time for voice mailboxes** entry field. The following entries are possible:

   1 to **60**: The voice mailbox accepts an incoming call on no reply after 1 to 60 seconds.

Note: The **Delay time for voice mailboxes** setting applies to all of the voice mailboxes.

Further steps:

– *The default announcement is played back according to the factory settings. If there is already other announcements for your voice mailboxes, select the desired announcement from the **Announcement** list field.*
– *Select or clear the **Recording** check box.*
– *Save your settings before you leave the page.*

Switching the Voice Mailbox On/Off via an Internal Telephone

Requirements:

– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
– *Subscriber is a member of the call distribution group*

1. Pick up the receiver of the telephone in question.
2. Dial **##97**.
3. Enter the telephone number of the call distribution group. The following entries are possible:

   ** **and internal telephone number of the call distribution group** (If you do not use a direct exchange line access, omit the **.)

Note:

The telephone number of the call distribution group is found on the page **CONFIGURATION > Call distribution**.

A subscriber is a member of a call distribution group if he is assigned to the call distribution group in the column of the corresponding group telephone number (✓ or 🕒) on the page **CONFIGURATION > Call distribution**.

---

4. Dial one of the following character strings:

   #*21#: Enables the voice mailbox via all configurations.

   ##21#: Disables the voice mailbox via all configurations.

Note: You can also enable or disable the voice mailbox using voice commands. To configure this, call the voice mailbox internally.

Switching the Voice Mailbox On via an External Telephone

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *DTMF dialling support on the external telephone*
– *Imported language file (*.fs)*
– *Knowledge of the PIN for accessing the corresponding voice mailbox remotely*
– *Disabled voice mailbox*

1. Call the voice mailbox and keep ringing for approximately one minute.

   The voice mailbox takes the call. You will be prompted to enter the 6-digit PIN for remote access and then the pound sign.

2. Enter the **PIN for remote query** and dial **#**.

   You are in the menu for remote access.

3. Dial ***11**.

   The voice mailbox is enabled.

Further steps:
– *If required, execute remote access.*

Selecting an Announcement for the Voice Mailbox

For each enabled voice mailbox, one of ten possible announcements can be selected. If no announcement is selected, the default announcement is automatically played back.

The selection can be carried out as follows:

- Via the configuration manager

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *At least one existing announcement for the voice mailboxes*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Call distribution > Create call distribution**.

   Across the table, all of the separate external telephone numbers entered and the corresponding group phone numbers (call distribution groups) are displayed.

   Note: Click ▶ to scroll horizontally across the table and display other telephone numbers. Click ◀ to scroll back again.

2. In the **Announcement** list field, select the announcement you want in column of the corresponding telephone number.

   Note: Click next to the **Announcement** list field to go to the page for listening to and saving the announcements for the voice mailboxes.

Further steps:
– *Save your settings before you leave the page.*

Recording, Saving, Listening to and Deleting an Announcement for Voice Mailboxes

The recording can be carried out as follows:

- Using a character string on the internal telephone

The saving procedure can be carried out as follows:

- Via the configuration manager

Listening can be carried out as follows:

- Via the configuration manager
- Using a character string on the internal telephone

Deleting can be carried out as follows:

- Via the configuration manager
- Using a character string on the internal telephone

Recording an Announcement for Voice Mailboxes via an Internal Telephone

Up to ten announcements for voice mailboxes can be recorded directly using the receiver of an internal telephone. When recording a new announcement, the currently existing announcement is overwritten directly.

Requirements:
– An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port
*– Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
– Configured sub-admin or admin PIN

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin or admin PIN.
4. Dial one of the following character strings:

   5661: Selects announcement number one.
   5662: Selects announcement number two.
   5663: Selects announcement number three.
   5664: Selects announcement number four.
   5665: Selects announcement number five.
   5666: Selects announcement number six.
   5667: Selects announcement number seven.
   5668: Selects announcement number eight.
   5669: Selects announcement number nine.
   5660: Selects announcement number ten.

You will hear the confirmation tone.

5. To start recording the announcement, dial *****.
6. Say the text you have prepared.
7. To stop recording, dial **#**.

   You will hear a hold tone. Then the announcement just recorded is played back.

Note: To stop recording, you can also hang up the receiver.

Saving an Announcement for Voice Mailboxes from the PC into the PBX via the Configuration Manager

It is possible to save up to ten WAVE files stored on the PC as announcements for voice mailboxes in the PBX.

The WAVE files must have the following properties:

- Format: 16 kHz, 16-bit, PCM, mono or 8 kHz, 8-bit, mono, A-law

---

Note: If the WAVE file does not have the required properties you should convert it before you save it into the PBX. In the Internet you can find conversion programmes which can be downloaded for free. With the conversion programme **SoX** (Sound eXchange), version 14.3.1, for example, which can be downloaded via **SourceForge** (http://sox.sourceforge.net/), the conversion can be made using: sox.exe -V %1 -r 8000 -c 1 -A %1-ITK.wav.

Requirements:
– An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port
– A WAVE file (.wav) saved on a data storage medium (PC)*
– Configuration manager, opened with sufficient authorization

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Announcements**.
2. In the **Announcement** list field, select one of the following options:

   1, Duration x Sec. to **10, Duration x Sec.**: Saves announcement 1 to 10 on the PBX.

3. Click **Browse** (this text is dependent on the operating system used) under **Store in the PBX**.

   A file selection dialog opens.

4. Select the file you want and click **Open** (this text is dependent on the operating system used).

   The path and the file name are displayed in a field in front of **Browse**.

5. Click **Save**.

Saving the Announcement for Voice Mailboxes on the PC via the Configuration Manager

The announcements for the voice mailboxes saved in the PBX can be saved on the PC as backup copies.

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *At least one existing announcement for the voice mailboxes*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Announcements**.

2. In the **Announcement** list field, select one of the following options:

   1, Duration x Sec. to **10, Duration x Sec.**: Saves announcement 1 to 10 on the PC.

3. Click **Read** under **Read from PBX**.

   A dialog for downloading the file opens.

4. Save the file on the PC.

Listening to the Announcement for the Voice Mailboxes via the Configuration Manager

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *At least one existing announcement for the voice mailboxes*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Announcements**.
2. In the **Announcement** list field, select one of the following options:

   1, Duration x Sec. to **10, Duration x Sec.**: Plays announcements 1 to 10 back.
3. Click under **Read from PBX**.

   A dialog for playing back the file opens.
4. Play the file back.

Listening to an Announcement for Voice Mailboxes via an Internal Telephone

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *At least one existing announcement for the voice mailboxes*
– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
– *Knowledge of the sub-admin or admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin or admin PIN.
4. Dial one of the following character strings:

   ***5761#**: Plays announcement number one back.

   ***5762#**: Plays announcement number two back.

   ***5763#**: Plays announcement number three back.

   ***5764#**: Plays announcement number four back.

   ***5765#**: Plays announcement number five back.

   ***5766#**: Plays announcement number six back.

   ***5767#**: Plays announcement number seven back.

   ***5768#**: Plays announcement number eight back.

   ***5769#**: Plays announcement number nine back.

   ***5760#**: Plays announcement number ten back.

   You hear the desired announcement.

Note: Depending on the length of the announcement, it may take some time for it to load and to be played back.

Deleting the Announcement for Voice Mailboxes (Restore Default Announcement) via the Configuration Manager

If an announcement for the voice mailboxes is deleted, the default announcement is automatically enabled.

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *At least one existing announcement for the voice mailboxes*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Announcements**.
2. In the **Announcement** list field, select one of the following options:

   1, Duration x Sec. to **10, Duration x Sec.**: Delets announcements 1 to 10.
3. Click **Delete** under **Delete announcement**.
4. Click **Continue**.

Deleting the Announcement for Voice Mailboxes (Restore Default Announcement) via an Internal Telephone

If an announcement for the voice mailboxes is deleted, the default announcement is automatically enabled.

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
– *Configured sub-admin or admin PIN*

1. Pick up the receiver.

2. Dial **##8**.
3. Enter the sub-admin or admin PIN.
4. Dial one of the following character strings:

   ***5561#**: Deletes announcement number one.

   ***5562#**: Deletes announcement number two.

   ***5563#**: Deletes announcement number three.

   ***5564#**: Deletes announcement number four.

   ***5565#**: Deletes announcement number five.

   ***5566#**: Deletes announcement number six.

   ***5567#**: Deletes announcement number seven.

   ***5568#**: Deletes announcement number eight.

   ***5569#**: Deletes announcement number nine.

   ***5560#**: Deletes announcement number ten.

Switching Message Recording On/Off

If message recording is enabled, a caller can record a message in the voice mailbox after listening to the announcement.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port
– Configuration manager, opened with sufficient authorization

1. Open the page **CONFIGURATION > Call distribution > Create call distribution**.

   Across the table, all of the separate external telephone numbers entered and the corresponding group phone numbers (call distribution groups) are displayed.

   Note: Click ▶ to scroll horizontally across the table and display other telephone numbers. Click ◀ to scroll back again.

2. Select or clear the **Recording** check box in the column of the corresponding telephone number.
   - ☑ Enables message recording.
   - ☐ Disables message recording.

Further steps:
– *Save your settings before you leave the page.*

Configuring the Maximum Recording Time per Call

The maximum recording time per call indicates the number of minutes after which the voice mailbox ends a recording automatically (in as far as the caller has not already hung up).

The configuration can be made as follows:

- Separately for voice mailboxes
- Via the configuration manager

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Boxes**.
2. Click in the line of the corresponding voice mailbox.
3. Enter a value in the **Per call** entry field under **Maximum recording time**. The following entries are possible:

   1 to **98**: The maximum recording time per call is 1 to 98 minutes.

   99: The recording time is unlimited (maximum storage utilization).

Further steps:
– *Save your settings before you leave the page.*

Configuring the Maximum Recording Time for One Voice Mailbox

The maximum recording time of the voice mailbox indicates how many minutes the voice mailbox can record messages in total.

The configuration can be made as follows:

- Separately for voice mailboxes
- Via the configuration manager

Requirements:
– An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port
– Configuration manager, opened with sufficient authorization

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Boxes**.
2. Click in the line of the corresponding voice mailbox.
3. Enter a value in the **Voice mailbox** entry field under **Maximum recording time**. The following entries are possible:

   10 to **98**: The maximum recording time for the voice mailbox is 10 to 98 minutes.

   99: The recording time is unlimited (maximum storage utilization).

Further steps:
– Save your settings before you leave the page.

Configuring the Maximum Recording Time for All Voice Mailboxes

The maximum recording time of all voice mailboxes indicates how many minutes are available for all voice mailboxes in total for recording messages.

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Settings**.
2. Enter a value in the **All voice mailboxes** entry field under **Maximum recording time**. The following entries are possible:

   30 to **998**: The maximum recording time for all voice mailboxes is 30 to 998 minutes.

   999: The recording time is unlimited (maximum storage utilization).

Further steps:
– *Save your settings before you leave the page.*

Switching Automatic Cleanup for a Voice Mailbox On/Off

A voice mailbox can store up to 100 voice messages. If automatic cleanup for a voice mailbox has been enabled and the maximum number of stored voice messages on the voice mailbox is achieved, the oldest voice messages marked as read are deleted when new messages are recorded.

Switching this on/off can be done as follows:

- Separately for voice mailboxes
- Via the configuration manager

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *Configuration manager, opened with sufficient authorization*
– *For voice messages sent as e-mail: enabled option **Mark as read the messages sent***

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Boxes**.
2. Click in the line of the corresponding voice mailbox.

3. Select or clear the **Perform when memory is full** check box under **Automatic cleanup**.
   - ☑ Enables automatic cleanup for the voice mailbox.
   - ☐ Disables automatic cleanup for the voice mailbox.

Further steps:
– *Save your settings before you leave the page.*

Querying the Voice Mailbox

All voice messages are saved as WAVE files on the storage medium on the PBX.

> **Note:** You have the option of allowing newly received voice messages to be signalled on the portal page (**Voice mail list**), on the "Messages" LED and as an info call on the telephone.

The query can be carried out as follows:

- Via the configuration manager
- Using a character string on the internal telephone

Querying the Voice Mailbox via the Configuration Manager

All received voice messages are listed in a table with the following columns:

- **Status**: Indicates whether it is a new or already queried message. New messages are indicated by ✉. Messages which already have been queried are indicated by 📭. You can change the status of the messages by clicking the icon (new -> queried or queried -> new).
- **Date/Time**: Indicates the date/time when the message was received.
- **Duration**: Indicates the duration of the received message.
- **Caller**: Indicates the external telephone number over which the message was received.
- **Call destination**: Shows the telephone number of the call distribution group.
- **Assigned MSN**: Shows the assigned MSN.

Note: Click the column headings to change the sorting criteria. Click the column headings again to change the sort order.

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *Configuration manager, opened with sufficient authorization*
– *At least one received voice message*

1. Open the page **USER DATA > Messages**.
2. In the list field at the top, select the voice mailbox in question according to sender's name.
3. Click in the line of the corresponding voice message.

   A dialog for opening or saving the voice message opens.
4. Open the file or save it on the PC.

Note:

Click in the line of the corresponding message to send the message by e-mail.

Click **Update** to reload the page and update the data displayed.

Querying the Voice Mailbox via an Internal Telephone

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *The imported language file (*.fs, e.g. english.fs, located on the accompanying Auerswald Mega Disk on the software page for the COMpact 3000) on the page **FUNCTIONS > Voice mail/fax boxes > Language file***
– *DTMF dialling support on the internal telephone*

1. Call the voice mailbox.

   The voice mailbox takes the call. You hear the configured announcement.
2. Dial ***.

3. If you are not assigned to the voice mailbox in the call distribution, you will be prompted to enter the 6-digit PIN for remote access and then the pound sign. Enter the **PIN for remote query** and dial **#**.

   The query is started. You are prompted through the query menu with the help of various announcements.

4. Execute query by entering the following codes.

   0: Opens the Help menu.

   1: Opens the main menu.

   2: Plays back the new messages.

   3: Plays back all of the messages.

   4: Jumps back to the previous message.

   5: Repeats the message currently being played back.

   6: Jumps to the next message.

   7: Deletes the message currently being played back.

   8: Ends playback.

   *** 10**: Disables the voice mailbox.

   *** 11**: Enables the voice mailbox.

   *** 70**: Deletes all messages.

   Hang-up: Ends the query.

Executing Remote Access

Remote access is used to query and maintain the voice mailboxes from an external telephone.

Performing this procedure can be carried out as follows:

- Using a character string on an external telephone

Requirements:
– An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port
– Imported language file (.fs)*
– Knowledge of the PIN for accessing the corresponding voice mailbox remotely
– DTMF dialling support on the external telephone

1. Call the voice mailbox.

   The voice mailbox takes the call. You hear the configured announcement

   ---

   Note: When the voice mailbox is disabled, you have to keep ringing for approximately one minute until the voice mailbox takes the call.

   ---

2. Dial ***.**

   You will be prompted to enter the 6-digit PIN for remote access and then the pound sign.

3. Enter the **PIN for remote access** and dial **#**.

   Remote access is started. You are guided through the remote access menu with the help of various announcements.

4. Execute remote access by entering the following codes.

   0: Opens the Help menu.

   1: Opens the main menu.

   2: Plays back the new messages.

   3: Plays back all of the messages.

   4: Jumps back to the previous message.

   5: Repeats the message currently being played back.

   6: Jumps to the next message.

   7: Deletes the message currently being played back.

   8: Ends playback.

   ***** **10**: Disables the voice mailbox.

   ***** **11**: Enables the voice mailbox.

   ***** **70**: Deletes all messages.

   Hang-up: Ends remote access.

Configuring the PIN for Remote Access

The configuration can be made as follows:

- Separately for voice mailboxes
- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Boxes**.
2. Click in the line of the corresponding voice mailbox.
3. If necessary, change the PIN for remote access in the **PIN for remote access**. The following entries are possible:

   Exactly 6 digits

   Digits

Further steps:
– *Save your settings before you leave the page.*

Switching the Info Call On/Off

If info calls are enabled, the arrival of a new voice message is signalled by a call of the voice mailbox to the telephone of the corresponding subscriber immediately after the recording has ended. When this is done, the telephone number or name of the voice mailbox is shown on the telephone display.

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *Configuration manager, opened with sufficient authorization*
– *System telephone, ISDN telephone or CLIP-enabled analog telephone*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > User settings**.

2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **Voice mailbox info call** check box.
   - ☑ Enables info calls.
   - ☐ Disables info calls.

Further steps:
– *Save your settings before you leave the page.*

Importing Language Files

The language file "english.fs" contains the menu announcements for the accessing the voice mailboxes per telephone. It is located on the accompanying Auerswald Mega Disk on the software page for the COMpact 3000.

The import can be carried out as follows:

- Via the configuration manager

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *Language file (*.fs) saved on a data storage medium (PC)*

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Language file**.
2. Click **Browse** (this text is dependent on the operating system used).

   A file selection dialog opens.
3. Select the file "english.fs" and click **Open** (this text is dependent on the operating system used).

   The path and the file name are displayed in a field in front of **Browse**.
4. Click **Import**.

   The language file is imported and listed in the table.

Note: If a language file has been imported before, it is replaced by the newly imported language file.

Fax Box

The fax box receives incoming faxes and saves them as PDF files on the USB memory stick or on the SD card on the PBX. The maximum length of a fax is 50 pages.

The fax reception speed is a max. of 9.6 kbps (V.29).

Creating a Fax Box

A maximum of six fax boxes can be created. The fax boxes are already present as a part of the factory settings (telephone numbers 801 to 806). You can change or delete them.

The creation can be carried out as follows:

- Via the configuration manager

Requirements:
– An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port
– Configuration manager, opened with sufficient authorization

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Boxes**.
2. If necessary, change one of the telephone numbers displayed in the line of the corresponding fax box in the **Telephone number** entry field or enter a new telephone number in the lowest line of the **Telephone number** entry field. The following entries are possible:

   Up to 4 digits

   Digits
3. Enter the desired name in the **Name** entry field. This is sent back to the fax header of the transmitting fax machine. The actual telephone number of the fax machine can be entered here. The following entries are possible:

   Up to 16 digits

   Digits and characters
4. If necessary, select the **Fax box** option in the **Type** list field.

Further steps:
– Save your settings before you leave the page.

Switching the Fax Box On/Off

Switching this on/off can be done as follows:

- Separately for external telephone numbers
- Separately for configurations
- Via the configuration manager

Requirements:
– An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port
– Configuration manager, opened with sufficient authorization

1. Open the page **CONFIGURATION > Call distribution > Create call distribution**.

   All of the separate external telephone numbers entered and the corresponding group phone numbers (call distribution groups) are displayed horizontally across the table.

   Note: Click ▶ to scroll horizontally across the table to display other telephone numbers. Click ◀ to scroll back again.

2. In the **Fax function** list field, select the fax box you want in column of the corresponding telephone number.

   Note:

   When using a COMpact 3000 analog, also configure the fax switch in the first **Fax function** list field.

   COMpact 3000 ISDN and VoIP: If you would like to designate the fax box for querying specific subscribers, first select the subscriber (✓) in the column of the corresponding telephone number. Selecting the fax box disables call distribution for the subscriber.

Further steps:
– Save your settings before you leave the page.

Entering a Fax ID

The fax ID is inserted into the top line of a fax and thus permits an exact identification of the sender.

The entry can be made as follows:

- Separately for fax boxes
- Via the configuration manager

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *Configuration manager, opened with sufficient authorization*
– *For **Sender name**: **Fax transfer** function purchased and activated in the Upgrade Center*

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Boxes**.
2. Click in the line of the corresponding fax box.
3. In the **Sender name** entry field under **Fax ID**, enter the name to be inserted into the top line of a fax along with the fax ID. The following entries are possible:

   Up to 50 digits

   Digits and characters
4. In the **Fax ID (telephone number)** entry field under **Fax ID**, enter the fax ID (complete telephone number of the specific external connection). The following entries are possible:

   Up to 20 digits

   Telephone number in the format: +[country prefix][city code][external number], e. g. +495306920094

Note: Recipients of a fax frequently send their response to the number entered in the header of the fax. Therefore, the number under **Fax ID (telephone number)** should be one of your own connections with fax acceptance.

Further steps:
– *Save your settings before you leave the page.*

Switching Automatic Cleanup for a Fax Box On/Off

A fax box can store up to 100 faxes. If automatic cleanup for a fax box has been enabled and the maximum number of stored faxes in the fax box is achieved, the oldest faxes marked as read are deleted when new faxes are stored.

Switching this on/off can be done as follows:

- Separately for fax boxes
- Via the configuration manager

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *Configuration manager, opened with sufficient authorization*
– *For faxes sent as e-mail: enabled option* ***Mark sent messages as read***

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Boxes**.
2. Click in the line of the corresponding fax box.
3. Select or clear the **Perform when memory is full** check box under **Automatic cleanup**.
   - ☑ Enables automatic cleanup for the fax box.
   - ☐ Disables automatic cleanup for the fax box.

Further steps:
– *Save your settings before you leave the page.*

Querying the Fax Box

All faxes received and sent are saved as PDF files on the storage medium on the PBX. They are listed in a table with the following columns:

- **Status**: Indicates whether it is a new or already queried fax. New faxes are indicated by . Faxes which already have been queried are indicated by . You can change the status of the faxes by clicking the icon (new -> queried or queried -> new).

Note: You have the option of having newly received faxes be signaled on the portal page (**Fax list**) and by the "Messages" LED.

- **Date/Time**: Indicates the date/time when the fax was received/sent.
- **Pages**: Shows the number of pages in the fax. The following icons also display whether the fax was received or sent and if the transfer was successful.

  (green) It is a sent fax. The transfer was successful.

  (red) It is a sent fax. The transfer was not successful.

  (green) It is a received fax. The transfer was successful.

  (red) It is a received fax. The transfer was not successful.
- **Caller**: Shows the external telephone number over which the message was received or to which the fax was sent.
- **Call destination**: Shows the telephone number of the call distribution group.
- **Assigned MSN**: Shows the assigned MSN.

Note: Click the column headings to change the sorting criteria. Click the column headings again to change the sort order.

The query can be carried out as follows:

- Via the configuration manager

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *Configuration manager, opened with sufficient authorization*
– *At least one received/sent fax*

1. Open the page **USER DATA > Messages**.
2. In the list field at the top, select the fax box in question according to sender's name.
3. Click in the line of the corresponding fax.

   A dialog for opening or saving the fax opens.
4. Open the file or save it on the PC.

Note:

Click in the line of the corresponding message to send the message by e-mail.

If a fax has not been received/sent successfully, is displayed in the corresponding line. Placing the cursor over the symbol displays a window containing information on the failure of the fax transmission.

Click **Update** reloaded the page and update the data displayed.

Fax Transfer

The fax function of the PBX supports fax transfer in combination with a corresponding PC application. The required **Auerswald Fax** printer driver has to be installed on the PC used and the **fax transfer** function has to be purchased and activated in the Upgrade Center.

The outgoing fax is saved on the storage medium for the used fax box and the fax transfer is controlled with the corresponding fax ID in the background by the PBX. If the destination of the fax cannot be reached (busy or no reply), two further dial-up attempts will automatically be made by the PBX.

For transferring and receiving faxes only one channel is available, i.e. only one fax can be transferred or received at the same time.

Configuring the PIN for Fax Transfer

The configuration can be made as follows:

- Separately for fax boxes
- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– ***Fax transfer** function purchased and activated in the Upgrade Center*

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Boxes**.
2. Click in the line of the corresponding fax box.

3. In the **PIN for fax transfer** entry field, enter the PIN for fax transfer. The following entries are possible:

   Exactly 6 digits

   Digits

Further steps:
– *Save your settings before you leave the page.*

Installing the Auerswald Fax Printer Driver on the PC

Install the **Auerswald Fax** printer driver on your PC. It is provided to you on the Auerswald Mega Disk as of version 6.11 and in the Internet (see service pages under www.auerswald.de).

Requirements:
– *PC with operating system Windows XP, Windows Vista or Windows 7*

1. Download the **Auerswald Fax** printer driver and start the driver installation by double-clicking the application file ***.exe**.
2. Select the desired language and click **OK**.
3. Click **Next**.
4. Read the license agreement. Afterwards, click **I accept the terms of the license agreement**. Click **Next**.

   The installation of the **Auerswald Fax** printer driver is started.
5. Click **Finish**.

Further steps:
– *Purchase and activate the **Fax transfer** function in the Upgrade Center.*

Transferring a Fax

Documents you created, e. g. in Word, can be transferred as faxes using the printing function of the PC program in question.

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *Created fax box*
– *Installed **Auerswald Fax** printer driver*
– ***Fax transfer** function purchased and activated in the Upgrade Center*

1. Open the document you want to send as a fax.
2. Print the file using the printing function of the PC program. In the printer selection, select **Auerswald Fax Printer**.

   The fax pages are generated. A dialog for entering login data opens.
3. In the **Subscriber number** entry field, enter the telephone number of the fax box in question.
4. In the **PIN** entry field, enter the PIN for fax transfer of the fax box in question.
5. In the **Network address** entry field, enter the IP address of the PBX.

   Click **Check** to check the login data. A window opens displaying the result of the check. Click **OK**.
6. Click **OK**.

   A dialog for entering the number of the fax recipient opens.
7. In the **Fax number of the recipient** entry field, enter the number of the fax recipient (with exchange line access number).
8. Click **Send**.

   The fax is transferred.
9. Click **OK**.

Note: If you want to cancel the transfer of a fax because, for example, you entered the wrong number for the fax recipient, you can delete the fax message under **USER DATA > Messages + selection of the fax box in question in the list field at the top**. To do this, click the waste bin symbol in front of the fax message to be deleted and then, click the tick symbol. The transfer of this fax message is cancelled.

Switching ECM (Error Correction Mode) for Fax Transmission On/Off

If ECM is enabled, transmission errors during transmission (e. g. caused by bad cables) are adjusted, as far as the receiver also supports ECM.

When many transmission errors occur (e. g. transoceanic cables or VoIP connections with many package losses) the sending cannot be transmitted because the fax devices cancel the transmission due to too many repetitions. In such cases it might be better to disable ECM.

Without ECM transmission errors are displayed as defective points or lines.

Switching this on/off can be done as follows:

- Separately for fax boxes
- Via the configuration manager

Requirements:
– *An SD card inserted in the SD card slot or a USB memory stick inserted in the USB port*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Boxes**.
2. Click in the line of the corresponding fax box.
3. Select or clear the **ECM (Error Correction Mode)** check box under **Fax transmission**.
   - ☑ Enables ECM (error correction mode).
   - ☐ Disables ECM (error correction mode).

Further steps:
– *Save your settings before you leave the page.*

RSS Feed

RSS (Really Simple Syndication) is an XML-based file format. A subscribed RSS feed automatically delivers new messages which can then be read in special newsreaders or in current browsers (e.g., Internet Explorer 8, Firefox 3, Safari 5).

Configuring RSS Feeds

Configure RSS feeds as follows:

1. Enable RSS feed initiation for the desired voice mail and fax boxes so that incoming messages (voice messages and faxes) are signaled by an RSS feed.
2. Select the topics that should be displayed in the RSS feeds. The following topics are available:

   Caller list

   Voice mail list

   Fax list
3. Subscribe to the RSS feeds. These topics are then made available on the browser used via an RSS reader.

Switching RSS Feeds On/Off

If RSS feed initiation has been enabled, incoming messages (voice messages and faxes) are signaled by an RSS feed. The RSS feed contains the following information:

- Name/telephone number of the voice mail/fax box
- Caller/sender
- Time (time, weekday, date)
- Message length

Switching this on/off can be done as follows:

- Separately for voice mail and fax boxes
- Via the configuration manager

Requirements:
– Configuration manager, opened with sufficient authorization

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Boxes**.
2. Click in the line of the corresponding voice mail or fax box.
3. Select or clear the **Initiate on incoming message** check box under **RSS feed**.
   - ☑ Enables RSS feed initiation for incoming messages.
   - ☐ Disables RSS feed initiation for incoming messages.

Further steps:
– Save your settings before you leave the page.

Assigning Topics for RSS Feeds

The following topics can be selected for display in RSS feeds:

- **Caller list** Displays all of the failed external calls to the subscriber.
- **Voice mail list**: Displays all of the voice messages of the subscriber.
- **Fax list**: Displays all of the faxes of the subscriber.

Note:

In an RSS feed, a maximum of the 100 most current entries is displayed.

In an RSS feed, the soft call function can be used to allow an external subscriber to be dialled directly.

The assignment can be carried out as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > User settings**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **Caller list** check box under **RSS feed**.
   - ☑ Enables caller list display in RSS feeds.
   - ☐ Disables caller list display in RSS feeds.
4. Select or clear the **Voice mail list** check box under **RSS feed**.
   - ☑ Enables voice mail list display in RSS feeds.
   - ☐ Disables voice mail list display in RSS feeds.
5. Select or clear the **Fax list** check box under **RSS feed**.
   - ☑ Enables fax list display in RSS feeds.
   - ☐ Disables fax list display in RSS feeds.

Further steps:
– *Save your settings before you leave the page.*

Subscribing to an RSS Feed

The subscription can be carried out as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *At least one topic selected by the subscriber for display in the RSS feed*
– *When using Mozilla Firefox: Downloaded RSS reader (in Mozilla Firefox, can be found under **Extras > Add-ons**)*

1. Click below in the configuration manager.

   Note: If you are registered as an administrator in the configuration manager (user name = admin (in the factory settings)), a dialog opens for selecting the corresponding subscriber. Select the desired subscriber in the list field and click **Subscribe**.

   A dialog for subscribing to RSS feeds opens. (This dialog depends on the browser used.)

2. Configure the settings you want.

   Note: If you change the IP address on the PBX, you need to reconfigure the settings for the RSS feed subscription.

E-mail

An e-mail (electronic mail) is a message that is transmitted over a computer network.

Switching E-mail Message Sending On/Off

If the sending of e-mail messages has been enabled, an e-mail message is automatically sent via the outgoing server after a new message (voice message or fax) is received. When this is done, it is possible to attach the message as a file. Voice messages are made available as WAVE files and faxes as PDF files. An e-mail contains the following information:

- Name/telephone number of the voice mail/fax box
- Caller/sender
- Time (time, weekday, date)
- Message length

Mark as read the messages that have been sent to enable a cleanup of the voice mail and fax boxes. Only messages that are marked as read can automatically be deleted from the memory.

Switching this on/off can be done as follows:

- Separately for voice mail and fax boxes
- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Internet access on the PBX*
– *Configured outgoing mail server (SMTP)*

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Boxes**.
2. Click in the line of the corresponding voice mail or fax box.
3. Select or clear the **Send e-mail in HTML format** check box under **E-mail**.
   ☑ The e-mails will be sent in HTML format.
   ☐ The e-mails will be sent in text format.

4. Select or clear the **Send on incoming message** check box under **E-mail**.
   - ☑ Enables the transmission of e-mail messages for incoming messages.
   - ☐ Disables the transmission of e-mail messages for incoming messages. (No other action is required.)
5. Select or clear the **Mark sent messages as read** check box under **E-mail**.
   - ☑ Enables the Mark as read the messages sent function.
   - ☐ Disables the Mark as read the messages sent function.
6. Select or clear the **Attach incoming message as file** check box under **E-mail**.
   - ☑ Enables the attachment of incoming messages as files.
   - ☐ Disables the attachment of incoming messages as files.
7. Enter up to three e-mail addresses for message recipients in the **Addresses of the message recipients** entry fields under **E-mail**. The following entries are possible:

   Digits and characters
8. If you would like to test sending e-mail messages, click **Test** under **Test E-mail transmission**.

   A test e-mail is sent.

Further steps:
– *Save your settings before you leave the page.*

Configuring the Outgoing Mail Server

The outgoing mail server is responsible for sending e-mail messages.

You will get the access data for configuring the outgoing mail server from your Internet Service Provider or it is located in your existing e-mail account.

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Internet access on the PBX*

1. Open the page **FUNCTIONS > Voice mail/fax boxes > Settings**.

2. Enter the address of the outgoing mail server in the **Address** entry field under **Outgoing mail server (SMTP)**. The following entries are possible:

   IP address with a range of 0 to 255 (example: 114.188.1.125)

   URL (example: www.smtp.de)

3. Enter the port number of the outgoing mail server in the **Port** entry field under **Outgoing mail server (SMTP)**. The following entries are possible:

   1 to **65535**

   Note: In the factory settings, the port used by the outgoing mail server is set to 25 by default.

   ---

4. In the **Type of authentication** list field under **Outgoing mail server (SMTP)**, select one of the following options:

   No authentication: Disables authentication.

   Password: Enables authentication via password.

   MD5 challenge-response: Enables authentication via MD5 challenge-response (MD5 = Message-Digest Algorithm 5).

   Note: Your e-mail provider can give you the information which type of authentication you should select.

   ---

5. Enter the user name in the **User name** entry field under **Outgoing mail server (SMTP)**. The following entries are possible:

   Digits and characters

6. Enter the password for the outgoing mail server in the **Password** and **Password (repeat entry)** entry fields under **Outgoing mail server (SMTP)**. The following entries are possible:

   Digits and characters

7. Select or clear the **Encryption (SSL)** check box under **Outgoing mail server (SMTP)**.

   ☑ Enables encryption via SSL protocol (Secure Socket Layer). The data is transferred via https.

   ☐ Disables encryption.

8. Enter the sender that should be displayed in the sent message in the **Sender** entry field under **Outgoing mail server (SMTP)**. The following entries are possible:

   Digits and characters

Further steps:
– *Save your settings before you leave the page.*

Configuring and Operating Functions

This section describes how to set up and operate the functions on your PBX. You will find out what the functions do, how to operate each function and how to allocate authorization for using a function, when necessary.

In most cases, operation of the system can be carried out in two different ways:

- Operation using an internal telephone
- Operation using the configuration manager

Topics

– Baby Call (page 187)
– Boss/Secretary Function (page 189)
– Busy on Busy (page 190)
– Call Deblocker (Incoming) – VIP Numbers (page 191)
– Call Deblocker (Outgoing) – Release Codes (page 194)
– Call Forwarding (page 197)
– Call Parking (page 207)
– Call Restrictor (Incoming) – Robinson Numbers (page 212)
– Call Restrictor (outgoing) – Restricted Numbers (page 215)
– Call Through (page 218)
– Call Waiting (page 223)
– CLIP Texts (page 224)
– Configuration Switchover (page 226)
– Do-not-disturb (page 235)
– Energy Savings Function (Economy Mode) (page 237)
– Exchange Line Authorization (page 238)
– Exchange Line Transfer (page 240)
– InterCom Announcement/Handsfree (page 245)
– LAN-TAPI (page 247)
– LCR (page 254)
– Multi-path Call Forwarding (page 265)
– Music on Hold and Announcement (page 268)
– Network Memory (page 277)
– Network Printer (page 279)
– Number Presentation (page 283)
– Online Name Search (page 285)
– Pickup (page 288)
– Private (Personalized) Exchange Line Access (page 292)
– Room Monitoring (page 295)
– Short-code Authorization (page 300)

– Soft Call (page 301)
– Targeted Exchange Line Access (page 302)
– Targeted VoIP Access Point (page 303)
– Telephone Number Display (CLIP) (page 305)
– Time and Call Allowance Account (page 308)
– VoIP/GSM Routing (page 317)
– Wake-up Functions (page 322)
– X.31 (page 335)

Baby Call

The baby call function provides a service in which approx. 2 seconds after picking up the receiver, a telephone number is automatically dialled to call an internal or external subscriber. This means, no key needs to be pressed. However, if a telephone is dialled manually within the first 2 seconds, it has priority. It must be noted that on some telephones, the numbers dialled are not sent immediately when the keys are pressed (often there is approx. a half second delay).

Switching Baby Call On/Off

Switching this on/off can be done as follows:

- Separately for subscribers
- Separately for configurations
- Via the configuration manager
- Using a character string on the internal telephone

> **Note:** A special dial tone can be configured to uniquely signal an enabled baby call function when the receiver is picked up.

Switching Baby Call On/Off via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > User settings**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **Baby call (connection without dialling)** check box.
   - ☑ Enables baby call.
   - ☐ Disables baby call. (No other action is required.)

4. In the **destination number** entry field under **Baby call (connection without dialling)**, enter the destination number. The following entries are possible:

   Up to 20 digits

   Exchange line access number + external phone number

   Short-code numbers

   Internal number of the individual telephone

   Internal number of the line group

Further steps:
– *Save your settings before you leave the page.*

Switching the Baby Call Function On/Off via the Internal Telephone

Requirements:
– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*

1. Pick up the receiver of the telephone in question.
2. Dial one of the following character strings:

   ***53#**: Enables baby call with the existing destination number. (No other action is required.)

   #53#: Disables the baby call. (No other action is required.)

   53: Enables the baby call.

3. Enter the destination number. The following entries are possible:

   **** and internal telephone number of the individual telephone** (If you do not use a direct exchange line access, omit the **.)

   **** and internal telephone number of the line group** (If you do not use a direct exchange line access, omit the **.)

   External phone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)

   **** and short code number** (If you do not use a direct exchange line access, omit the **.)

4. Dial **#**.

Boss/Secretary Function

The boss/secretary function protects the boss telephone from direct calls by rerouting them to the secretary. The most important difference from call forwarding is that the boss telephone can still be called from the secretary telephone and the secretary can still transfer important calls to the boss telephone.

Configuring the Boss/Secretary Function

The bos/secretary function is configured on the system telephones in question. The configuration and operation of the function is described in detail in the manual for the system telephone.

Requirements:

– *At least two COMfortel 1500/2500/2500 AB/VoIP 2500 AB system telephones*
– *Internal S_0 port (only available on the optional COMpact S_0 module or COMpact ISDN module) or internal VoIP channels (COMpact 3000 VoIP or acquired in the Upgrade Center and released VoIP channels)*

1. Configure a function key as a secretary key on the manager's telephone.
2. Configure a function key as a boss key on the secretary's telephone.

Note:

On the secretary's telephone, in addition to the boss key, it is also a good idea to configure a speed dialling key for the phone number of the manager telephone in order to keep track of whether it is busy or not.

In order to recognize a call coming from the secretary's telephone, the secretary's telephone number can be entered into the telephone book on the manager's telephone and assigned a specific ringer rhythm.

Busy on Busy

If a call is already in progress over one of your own external telephone numbers, the "Busy on Busy" function prevents another external call to this telephone number from being signaled on the internal subscribers selected in call distribution (another caller receives the busy tone, even if call waiting is enabled on the subscriber speaking).

This is meaningful when there is only one person present in the office, and this person would like to make calls undisturbed. Any other callers are given the impression through Busy on Busy that no one is present.

Switching Busy on Busy On/Off

Switching this on/off can be done as follows:

- Separately for external telephone numbers
- Separately for configurations
- Via the configuration manager

Requirements:

– Configuration manager, opened with sufficient authorization

1. Open the page **CONFIGURATION > Call distribution > Create call distribution**.

   Across the table, all of the separate external telephone numbers entered are displayed.

   Note: Click ▶ to scroll horizontally across the table and display other telephone numbers. Click ◀ to scroll back again.

2. Select or clear the **Busy on Busy** check box in the column of the telephone number in question.

   ☑ Enables Busy on Busy.

   ☐ Disables Busy on Busy.

Further steps:

– Save your settings before you leave the page.

Call Deblocker (Incoming) – VIP Numbers

If you would still like to allow specific people to call you despite enabling the do-not-disturb function, the external telephone numbers of these people can be assigned a call deblocker for incoming calls in the PBX. The call deblocker which applies to all subscribers can be enabled on your own telephone as needed. If the call deblocker is enabled, the do-not-disturb function does not apply to callers who use one of the assigned telephone numbers.

Switching the Call Deblocker (Incoming) On/Off

Switching this on/off can be done as follows:

- Separately for subscribers
- Separately for configurations
- Via the configuration manager
- Using a character string on the internal telephone
- On the system telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB using the menu/function key (see the telephone manual)

Switching the Call Deblocker (Incoming) On/Off via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Configured call deblocker*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > User settings**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **Call deblocker (incoming)** check box.
   - ☑ Enables the call deblocker.
   - ☐ Disables the call deblocker. (No other action is required.)
4. Select the call deblocker you want in the **Call deblocker (incoming)** list field.

Note: The telephone numbers/ranges are entered in the call deblocker on the page **USER DATA > Call restrictor and deblocker > Call deblocker (incoming) - VIP numbers**. Click to switch directly to this page.

Further steps:
– *Save your settings before you leave the page.*

Switching the Call Deblocker (Incoming) On/Off via the Internal Telephone

Requirements:
– *A user PIN configured for the subscriber*
– *A call deblocker configured and assigned to the subscriber*
– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the user PIN.
4. Dial one of the following character strings:

   ***221#**: Enables the call deblocker.

   ***220#**: Disables the call deblocker.

Creating a Call Deblocker (Incoming)

A total of up to 10 call deblockers can be created. This means that a total of up to 100 telephone numbers/ranges can be entered (e.g., 10 call deblockers, each with 10 telephone numbers or 5 call deblockers, each with 20 telephone numbers).

The creation can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click)*

1. Open the page **USER DATA > Call restrictor and deblocker > Call deblocker (outgoing) - VIP numbers**.

2. Enter the name of the call deblocker in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters

3. Click .

4. Click in the line of the corresponding call deblocker.

   A page opens for creating telephone numbers/ranges for the call deblocker in question.

5. In the **Telephone no** entry field, enter the telephone number/range. The following entries are possible:

   Up to 20 digits

   Digits

6. Enter the name of the corresponding telephone number in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters

7. Click .

8. Repeat step 5 to 7 to enter additional telephone numbers in the call deblocker.

9. Repeat step 2 to 8 to create additional call deblockers.

Further steps:
– *Save your settings before you leave the page.*

Overview of Configured Call Deblockers (Incoming)

The overview of call restrictors and deblockers shows all of the previously configured call deblockers.

Note:

The overview can be opened in the configuration manager by selecting **Call restrictor and deblockers** in the list field next to and then clicking .
To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

Call Deblocker (Outgoing) – Release Codes

Call deblockers can be added to the exchange line authorizations to expand dialling options with additions of a certain supply of numbers (telephone numbers for specific connections or specific prefixes). Since call deblockers have a higher priority than call restrictors, they can be used to release restricted numbers or parts of them.

Switching the Call Deblocker (outgoing) On/Off

Switching this on/off can be done as follows:

- Separately for subscribers
- Separately for business and personal calls
- Separately for configurations
- For the exchange line transfer function (**FUNCTIONS > Transfer > Exchange line transfer**)
- For the Call Through function (**FUNCTIONS > Call Through > Exchange line settings**)
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Configured call deblocker*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Exchange line settings**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear each the **business** and **private** check boxes under **Call deblocker (outgoing)**.
   - ☑ Enables the call deblocker.
   - ☐ Disables the call deblocker. (No other action is required.)
4. Select the call deblocker you want in the corresponding **business** and **private** list fields under **Call deblocker (outgoing)**.

Note: The telephone numbers/ranges are entered in the call deblocker on the page **USER DATA > Call restrictor and deblocker > Call deblocker (outgoing) - Released numbers**. Click to switch directly to this page.

Further steps:

– *Save your settings before you leave the page.*

Creating a Call Deblocker (Outgoing)

Ten call deblockers with a total of a maximum of 100 telephone numbers/ranges can be configured (e.g., 10 call deblockers, each with 10 telephone numbers or 5 call deblockers, each with 20 telephone numbers).

The creation can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click)*

1. Open the page **USER DATA > Call restrictor and deblocker > Call deblocker (outgoing) - Released numbers**.
2. Enter the name of the call deblocker in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters
3. Click .
4. Click in the line of the corresponding call deblocker.

   A page opens for creating telephone numbers/ranges for the call deblocker in question.
5. Enter the telephone number/range in the **Telephone number** entry field. The following entries are possible:

   Up to 20 digits

   Digits

6. Enter the name of the corresponding telephone number in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters

7. Click .

8. Repeat step 5 to 7 to enter additional telephone numbers in the call deblocker.

9. Repeat step 2 to 8 to create additional call deblockers.

Further steps:
– Save your settings before you leave the page.

Overview of Configured Call Deblocker (Outgoing)

The overview of call restrictors and deblockers shows all of the previously configured call deblockers.

Note:

The overview can be opened in the configuration manager by selecting **Call restrictor and deblockers** in the list field next to and then clicking .
To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

Call Forwarding

Call forwarding allows calls to be forwarded, e.g., to a mobile phone.

Call Forwarding for External Numbers

The PBX supports call forwarding variants for call forwarding for external numbers.

When call forwarding for external numbers is used, calls made to an external phone number (dialled by an external caller) are rerouted to other external connections. In this way, these calls can be taken on another telephone, for example, on a mobile phone if no one can take the call internally.

Kinds of Call Forwarding

As there can be many different reasons for not accepting a call, for example, the subscriber in question is not present or is on another line, three kinds of call forwarding are provided:

CF unconditional

The telephone being called does not ring. The call is forwarded immediately.

CF on busy

The call is forwarded immediately but only if the telephone being called is busy

CF on no reply

The telephone being called rings for a certain amount of time. If the call is not accepted, it is forwarded.

Note:

A different destination can be configured for each of the three kinds of call forwarding.

If "CF on busy" and "CF on no reply" are enabled at the same time, both kinds apply. Depending on which case occurs – the telephone is busy or nobody answers it – the call is forwarded to their respective telephone numbers.

If "CF unconditional" is enabled in addition to the "CF on busy" and/or "CF on no reply," all of the calls are forwarded immediately. In this case, the other kinds of call forwarding are overridden, but remain enabled. As soon as "CF unconditional“ is disabled, the other kinds that are still enabled are again applicable.

Switching Call Forwarding for External Numbers On/Off

Note: An overview of the configured call forwardings can be configured as an element on the portal page (**Call forwardings MSN/DDI**).

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager
- Using a character string on the internal telephone
- On the system telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB using the menu/function key (see the telephone manual)

Note: The control commands (keypad) defined in the PBX COMpact 3000 analog for executing the function may differ from those provided by your network provider. If there are malfunctions, ask your network provider about the required control commands (keypad) and change the setting on the page **CONFIGURATION > External numbers > Analogue connection > Expert configuration**. If you would like to use the feature directly on the exchange line instead, the subscriber needs the authorization for configuring features on the exchange line.

Switching Call Forwarding for External Numbers On/Off via the Configuration Manager

Requirements:

– *External analog port (only COMpact 3000 analog), external S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option) or external VoIP channel*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Call forwarding**.

2. Depending on the type of call forwarding desired, select or clear the one of the following check boxes **immediately** or **on busy** or **on no reply**.

   ☑ Enables the type of call forwarding in question.

   ☐ Disables the type of call forwarding in question. (No other action is required.)

3. Enter the destination number in the **Destination number** entry field under the desired type of call forwarding **immediately**, or **on busy**, or **on no reply**. The following entries are possible:

   Up to 20 digits

   Exchange line access number + external phone number

   Short-code numbers

Further steps:
– *Save your settings before you leave the page.*

Switching Call Forwarding Unconditional for External Numbers On/Off via an Internal Telephone

Requirements:
– *External analog port (only COMpact 3000 analog), external S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option) or external VoIP channel*
– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
– *Subscriber authorization for configuring features on the exchange line*

1. Pick up the receiver.
2. Dial **##96**.
3. Enter the telephone number to be rerouted. The following entries are possible:

   External phone numbers (independent of the configuration of the direct exchange access)

Note:

Telephone numbers to be rerouted are telephone numbers dialled by external callers (prefix + PBX base number + DDI or prefix + MSN).

If the PBX only has one external connection and one telephone number has been selected for number presentation, you can simplify call forwarding configuration. If you configure call forwarding for external numbers for this

telephone number on the telephone in question, the entire character string can be dialled without having to manually enter the telephone number to be forwarded, that means e.g. **##96#*21#**.

---

4. Dial one of the following character strings:

   #*21#: Enables call forwarding unconditional for external numbers with an existing destination number. (No other action is required.)

   ##21#: Disables call forwarding unconditional for external numbers. (No other action is required.)

   #*21*: Enables call forwarding unconditional for external numbers.

5. Enter the destination number. The following entries are possible:

   External phone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)

   **** and short code number** (If you do not use a direct exchange line access, omit the **.)

6. Dial **#**.

Switching Call Forwarding on Busy for External Numbers On/Off via an Internal Telephone

Requirements:

- *External analog port (only COMpact 3000 analog), external S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option) or external VoIP channel*
- *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
- *Subscriber authorization for configuring features on the exchange line*

1. Pick up the receiver.
2. Dial **##96**.
3. Enter the telephone number to be rerouted. The following entries are possible:

   External phone numbers (independent of the configuration of the direct exchange access)

Note:

Telephone numbers to be rerouted are telephone numbers dialled by external callers (prefix + PBX base number + DDI or prefix + MSN).

If the PBX only has one external connection and one telephone number has been selected for number presentation, you can simplify call forwarding configuration. If you configure call forwarding for external numbers for this telephone number on the telephone in question, the entire character string can be dialled without having to manually enter the telephone number to be forwarded, that means e.g. **##96#*67#**.

4. Dial one of the following character strings:

   #*67#: Enables call forwarding on busy for external numbers with an existing destination number. (No other action is required.)

   ##67#: Disables call forwarding on busy for external numbers. (No other action is required.)

   #*67*: Enables call forwarding on busy for external numbers.

5. Enter the destination number. The following entries are possible:

   External phone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)

   **** and short code number** (If you do not use a direct exchange line access, omit the **.)

6. Dial **#**.

Note: For call forwarding on busy to an analog connection via the network provider, the following applies: The central office only detects whether the analog connection is busy. The central office does not detect whether the telephones being called are busy. This means the following: As soon as the analog connection becomes busy, call forwarding on busy is carried out. This also occurs when internal subscribers that are set to accept the calls for this connection during normal call distribution are available. Even if the analog connection is available, but the internal subscriber that is set to accept calls on this connection during normal call distribution becomes busy, call forwarding on busy is still not carried out.

Switching Call Forwarding on No Reply for External Numbers On/Off via an Internal Telephone

Requirements:

- *External analog port (only COMpact 3000 analog), external S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option) or external VoIP channel*
- *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
- *Subscriber authorization for configuring features on the exchange line*

1. Pick up the receiver.
2. Dial **##96**.
3. Enter the telephone number to be rerouted. The following entries are possible:

   External phone numbers (independent of the configuration of the direct exchange access)

   Note:

   Telephone numbers to be rerouted are telephone numbers dialled by external callers (prefix + PBX base number + DDI or prefix + MSN).

   If the PBX only has one external connection and one telephone number has been selected for number presentation, you can simplify call forwarding configuration. If you configure call forwarding for external numbers for this telephone number on the telephone in question, the entire character string can be dialled without having to manually enter the telephone number to be forwarded, that means e.g. **##96#*61#**.

   ---

4. Dial one of the following character strings:

   #*61#: Enables call forwarding on no reply for external numbers with an existing destination number. (No other action is required.)

   ##61#: Disables call forwarding on no reply for external numbers. (No other action is required.)

   #*61*: Enables call forwarding on no reply for external numbers.

5. Enter the destination number. The following entries are possible:

   External phone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)

   **** and short code number** (If you do not use a direct exchange line access, omit the **.)

6. Dial **#**.

Switching Authorization for Configuring Features on the Exchange Line On/Off

If the authorization for configuring features on the exchange line is enabled, the subscriber in question can configure call forwarding for external numbers using his own internal telephone. He can continue to use keypad functions on the exchange line to configure features provided by the network provider.

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Authorizations**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **Configuring features on the exchange line (e.g., MSN/DDI-CF)** check box.
   - ☑ Enables the authorization for configuring features on the exchange line.
   - ☐ Disables the authorization for configuring features on the exchange line.

Further steps:
– *Save your settings before you leave the page.*

Configuring the Use of the Feature via the PBX or the Network Provider

Call forwarding for external numbers can be configured via the PBX or via the network provider.

If the feature has been enabled for use via the PBX, an existing available voice channel is used in order to forward the call. The charges for this additional connection established by the PBX are billed to the PBX operator.

If the feature has been enabled for use via the network provider, call forwarding is carried out by the central office. This prevents multiple numbers from being sent though call channels when the system's own external telephone numbers are forwarded.

> **Note:** However, the time necessary to set up the user telephone remains the same. A longer configuration time (time until the acknowledgment) must be taken into account.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog), external S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option) or external VoIP channel*
– *Configuration manager, opened with sufficient authorization*
– *For a feature via the PBX: At least two call channels*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the connection in question.

   A page opens for configuring the connection in question.
3. Open one of the following pages:
   - **Analogue connection > Name and functions**
   - **ISDN connection > Name and functions**
4. In the **Feature via** list field, select one of the following options:

   Network provider: Enables the use of the feature via the network provider.

   PBX (2nd call channel): Enables the use of the feature via the PBX.

Note: When a call is forwarded via the network provider, it is not possible to display the call charges on the PBX display.

Further steps:

– *Save your settings before you leave the page.*

Switching the Use of Any Available Call Channels On/Off

For call forwarding your own external telephone number via the PBX (setting **Feature via PBX (2nd call channel)**), the B-channel belonging to the port is used by default in addition to the B-channel assigned by the outgoing call. Since the probability of call forwarding not being carried out due to a busy B-channel is then higher, any B-channel can be enabled.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option), external VoIP channel and created VoIP account*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the ISDN connection in question.

   A page opens for configuring the ISDN connection.
3. Open the page **ISDN connection > Name and functions**.
4. Select or clear the **Use any available call channel** check box.

   ☑ Enables the use of any available call channels.

   ☐ Disables the use of any available call channels.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Delay Time for Call Forwarding for External Numbers on No Reply

The delay time for call forwarding on no reply for external numbers indicates after how many seconds a call is forwarded if the subscriber called does not respond.

The delay time applies only to call forwarding that has been configured via the PBX. For a configured call forwarding configured at the network provider, the delay time is permanently set to 20 seconds.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog), external S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option) or external VoIP channel*
– *Configuration manager, opened with sufficient authorization*
– *Use of the feature via the PBX*
– *Expert view (click E)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the connection in question.

   A page opens for configuring the connection in question.
3. Open one of the following pages:
   - **Analogue connection > Name and functions**
   - **ISDN connection > Name and functions**
   - **VoIP connection > Name and settings**
4. In the **Delay Time for CF on no reply** list field, select the desired delay time.

Further steps:
– Save your settings before you leave the page.

Overview of Call Forwarding for External Numbers

The overview shows all of the previously enabled call forwarding for external numbers configurations and their targets.

Note:

The overview can be opened in the configuration manager by selecting **CF status** in the list field next to and then clicking . To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

Call Parking

Call parking lets a caller in a waiting position be transferred so that the desired communication partner can accept the call on another internal telephone.

Sequence of Call Parking

Call parking is carried out as follows:

- The call is first transferred to a telephone number that has been previously specified for this function and then parked.
- The caller is kept on hold in the PBX and listens to hold music.
- The desired communication partner is then notified of the waiting caller. He can then take the call by dialling the telephone number that had previously been transferred.

Parking the Call Internally

Requirements:

– *Authorization **Call Parking** assigned to the subscriber*

During an external call, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).

2. Enter the internal base telephone number. The following entries are possible:

   **** and internal base telephone number for the parking zone** (If you do not use a direct exchange line access, omit the **.)

3. Dial the number of the park position. The following entries are possible:

   0 to **9**

   Note: If you hear a busy tone when you dial the park position, this position is already in use. Pressing **flash key** (on DTMF telephones) or the **Query key** (for ISDN telephones) takes you back where you can redial the internal base telephone number with another park position.

4. Wait until you hear the ring tone.
5. Hang up the receiver.
6. Notify the desired communication partner of the waiting caller (e.g., by making an announcement over the loudspeaker).

Unparking the Call

Requirements:

– *Authorization **Call Parking** assigned to the subscriber*

1. Pick up the receiver.
2. Enter the internal base telephone number. The following entries are possible:

   **** and internal base telephone number for the parking zone** (If you do not use a direct exchange line access, omit the **.)
3. Dial the number of the park position. The following entries are possible:

   0 to **9**

   You are talking with the waiting caller.

Unparking a Second Call During a Call

Requirements:

– *Authorization **Call Parking** assigned to the subscriber*

During a call, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).
2. Dial **##06**.
3. Enter the internal base telephone number. The following entries are possible:

   **** and internal base telephone number for the parking zone** (If you do not use a direct exchange line access, omit the **.)

4. Dial the number of the park position. The following entries are possible:

   0 to **9**

   You are conducting a query call with the waiting caller.

Switching Authorization for Call Parking On/Off

If the authorization for call parking is enabled, the subscriber in question can park a caller in the parking zone or retrieve a waiting caller from the parking zone.

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Authorizations**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **Call Parking** check box.
   - ☑ Enables authorization for call parking.
   - ☐ Disables authorization for call parking.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Internal Base Telephone Number for the Parking Zone

The internal base telephone number is a telephone number taken from the internal telephone number plan. When put together with the ten possible park positions 0-9, this creates ten 3 to 4-digit telephone numbers. These numbers can then be used to select the parking zone for call parking.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– Configuration manager, opened with sufficient authorization

1. Open the page **FUNCTIONS > Call Parking**.
2. Enter an internal telephone number in the **Internal base telephone number** entry field. The following entries are possible:

   2 to 3 digits in the range of **10** to **999**

   Note:

   Double allocation of a number is not possible.

   The telephone numbers 70, 80, 87, 701-706, 801-806, 875-879 and 8750-8799 cannot be freely allocated. They are required for internal PBX use.

   Using telephone numbers with few digits (two or three-digit numbers) inevitably restricts the possible supply of telephone numbers requiring more digits. For example, if the telephone number 12 is assigned, the telephone numbers 120-129 and 1200-1299 are no longer available.

   The default exchange line access number on the PBX is "0" in the factory settings; however, this can be changed. Note that changing the exchange line access number restricts the telephone number plan.

   ---

3. Enter the corresponding name in the **Name** entry field. The following entries are possible:

   Up to 15 digits

   Digits and characters

Further steps:

– Save your settings before you leave the page.

Configuring Hold Time

The hold time indicates how many minutes a call is kept in the internal parking zone at most. After the hold time has elapsed, the subscriber that put the call in the parking zone is again signaled that the call is still there. If this subscriber is busy, the call is put back on hold in the parking zone. If the hold time elapses a second time without the call being transferred, the connection is disconnected and the caller hears the busy tone.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Call parking**.
2. Enter a value in the **Hold time** entry field. The following entries are possible:

   1 to **20**: A call is held for a maximum of 1 to 20 minutes in the internal parking zone.

Further steps:

– *Save your settings before you leave the page.*

Call Restrictor (Incoming) – Robinson Numbers

If there are certain persons who you absolutely do not want to call you or if you do not want callers to call a private branch exchange, their external phone numbers and/or all anonymous callers can be assigned to a call restrictor for incoming calls. The call restrictor which applies to all subscribers can be enabled on your own telephone as needed. If the call restrictor is enabled, a caller, who transmitted one of the assigned telephone numbers, is rejected.

Switching the Call Restrictor (Incoming) On/Off

Switching this on/off can be done as follows:

- Separately for subscribers
- Separately for configurations
- Via the configuration manager
- Using a character string on the internal telephone
- On the system telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB using the menu/function key (see the telephone manual)

Switching the Call Restrictor (Incoming) On/Off via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Configured call restrictor*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > User settings**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **Call restrictor (incoming)** check box.
   - ☑ Enables the call restrictor.
   - ☐ Disables the call restrictor. (No other action is required.)
4. Select the call restrictor you want in the **Call restrictor (incoming)** list field.

Note: The telephone numbers/ranges are entered in the call restrictor on the page **USER DATA > Call restrictor and deblocker > Call restrictor (incoming) - Robinson numbers**. Click 📄 to switch directly to this page.

Further steps:

– *Save your settings before you leave the page.*

Switching the Call Restrictor (Incoming) On/Off via the Internal Telephone

Requirements:

– *User PIN configured for the subscriber*

– *Call restrictor configured and assigned to the subscriber*

– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the user PIN.
4. Dial one of the following character strings:

   ***231#**: Enables the call restrictor.

   ***230#**: Disables the call restrictor.

Creating a Call Restrictor (Incoming)

A total of up to 10 call restrictors can be created. And a total of up to 100 telephone numbers/ranges can be entered (e.g., 10 call restrictors, each with 10 telephone numbers or 5 call restrictors, each with 20 telephone numbers).

The creation can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **USER DATA > Call restrictor and deblocker > Call restrictor (incoming) - Robinson numbers**.
2. Enter the name of the call restrictor in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters

3. Click .
4. Click in the line of the corresponding call restrictor.

   A page opens for creating telephone numbers/ranges for the call restrictor in question.
5. Select or clear the **Restrict anonymous callers** check box.

   ☑ Enables the restrict anonymous callers function.

   ☐ Disables the restrict anonymous callers function.
6. In the **Telephone no** entry field, enter the telephone number/range. The following entries are possible:

   Up to 20 digits

   Digits
7. Enter the name of the corresponding telephone number in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters
8. Click .
9. Repeat step 6 to 8 to enter additional telephone numbers in the call restrictor.
10. Repeat step 2 to 9 to create additional call restrictors.

Further steps:
– *Save your settings before you leave the page.*

Overview of Configured Call Restrictors (Incoming)

The overview of call restrictors and deblockers shows all of the previously configured call restrictors.

Note:

The overview can be opened in the configuration manager by selecting **Call restrictor and deblockers** in the list field next to and then clicking .
To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

Call Restrictor (outgoing) – Restricted Numbers

In order to restrict exchange line authorization, the telephone numbers that should not to be dialled can be put in call restrictors. There are several ways to do this. In general, telephone numbers are restricted that begin with a certain digit sequence and that should not be accessible to every subscriber due to its higher charge tariffs, e.g., 0900 telephone numbers. Normally, the first 4 to 5 digits indicate the telephone service that cause such high charges.

If an attempt is made to dial a restricted telephone number, only a busy tone is heard. If the restricted numbers are not activated (meaning "not restricted"), restriction via the configured exchange line authorization is still possible.

Switching the Call Restrictor (Outgoing) On/Off

Switching this on/off can be done as follows:

- Separately for subscribers
- Separately for business and personal calls
- Separately for configurations
- Separately for fax boxes (**FUNCTIONS > Voice mail/fax boxes > Boxes + Click in the line of the fax box in question**): see step 4.
- For the exchange line transfer function (**FUNCTIONS > Transfer > Exchange line transfer**)
- For the Call Through function (**FUNCTIONS > Call Through > Exchange line settings**)
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Configured call restrictor*

– *For personal calls: Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Exchange line settings**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear each the **business** and **private** check boxes under **Call restrictor (outgoing)**.
   - ☑ Enables the call restrictor.
   - ☐ Disables the call restrictor. (No other action is required.)

4. Select the call restrictor you want in the corresponding **business** and **private** list fields under **Call restrictor (outgoing)**.

   For fax boxes: Select the call restrictor you want in the **Call restrictor (outgoing)** list field under **Exchange line authorization**.

   Note: The telephone numbers/ranges are entered in the call restrictor on the page **USER DATA > Call restrictor and deblocker > Call restrictor (outgoing) - Restricted numbers**. Click to switch directly to this page.

Further steps:
– *Save your settings before you leave the page.*

Creating a Call Restrictor (Outgoing)

Ten call restrictors with a maximum of 100 telephone numbers/ranges total can be configured (e.g., 10 call restrictors, each with 10 telephone numbers or 5 call restrictors, each with 20 telephone numbers).

The creation can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **USER DATA > Call restrictor and deblocker > Call restrictor (outgoing) - Restricted numbers**.
2. Enter the name of the call restrictor in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters
3. Click .
4. Click in the line of the corresponding call restrictor.

   A page opens for creating telephone numbers/ranges for the call restrictor in question.

5. In the **Telephone no** entry field, enter the telephone number/range. The following entries are possible:

   Up to 20 digits

   Digits

6. Enter the name of the corresponding telephone number in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters

7. Click .

8. Repeat step 5 to 7 to enter additional telephone numbers in the call restrictor.

9. Repeat step 2 to 8 to create additional call restrictors.

Further steps:
– *Save your settings before you leave the page.*

Overview of Configured Call Restrictors (Outgoing)

The overview of call restrictors and deblockers shows all of the previously configured call restrictors.

Note:

The overview can be opened in the configuration manager by selecting **Call restrictor and deblockers** in the list field next to and then clicking .
To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

Call Through

This function also enables, e.g., field representatives to use the least cost routing function and VoIP/GSM routing on the PBX. To prevent high costs when using mobile telephones, an international call be made by first calling the PBX and then connecting to the desired connection from the PBX. The Call Through function also enables the direct redial of any telephone number.

The Call Through Sequence

A Call Through call is carried out as follows:

- On his mobile phone, the user dials an external phone number that has previously been defined for Call Through on the PBX.
- Based on the telephone number transmitted by the mobile phone, the PBX verifies whether the caller is authorized for Call Through.
- If Call Through authorization has been granted, the PBX automatically takes the call and signals this using a special tone.
- The user dials the desired telephone number on his mobile phone equipped with DTMF. After successful verification based on the Call Through list and perhaps the least cost routing table, the PBX then dials this number and a connection is established.

> **Note:** The greatest cost savings is achieved when the PBX telephone number has been entered – if available – as a preferred special telephone number with the mobile communications provider.

Configuring Call Through

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*

Configure the Call Through function as follows:

1. Configure the following settings:

   LCR for Call Through calls

   Maximum duration for external Call Through calls

   Exchange line settings for Call Through calls

2. Configure the call assignment. Doing this also specifies over which external phone number the Call Through user calls the Call Through function and how many Call Through calls can be made simultaneously.

3. Create the desired Call Through user. When you do this, enter the telephone number of the Call Through user in the telephone book and enable Call Through authorization.

Switching LCR for Call Through Calls On/Off

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*

1. Open the page **FUNCTIONS > Call Through**.

2. Select or clear the **LCR for Call Through calls** check box under **Settings**.
   - ☑ Enables LCR for Call Through calls.
   - ☐ Disables LCR for Call Through calls.

Further steps:
– *Save your settings before you leave the page.*

Configuring the Maximum Duration for External Call Through Calls

Due to security reasons, external Call Through calls from the PBX have a time limit.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*

1. Open the page **FUNCTIONS > Call Through**.
2. Enter a value in the **Max. duration of an external Call Through call** entry field under **Settings**. The following entries are possible:

   1 to **99**: The PBX ends an external Call Through call after 1 to 99 minutes.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Exchange Line Settings for Call Through Calls

You can configure which exchange line settings (e.g., exchange line authorization, call restrictor (outgoing), call deblocker (outgoing)) should apply for Call Through.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*

1. Open the page **FUNCTIONS > Call Through**.
2. Configure the exchange line settings you want.

Note: Enabling/disabling or selecting an option can be carried out as described in the help topics (?). You do not have to carry out steps 1 and 2 described in the help topic (opening the page + selecting the subscriber).

Further steps:

– *Save your settings before you leave the page.*

Configuring Call Assignments

Configuring the call assignments also specifies the external phone number over which the Call Through user uses the Call Through function and how many Call Through calls can be made simultaneously.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **FUNCTIONS > Call Through**.
2. In the **Call Through telephone numbers** list field under **Call assignment**, select the external telephone number that must be dialled by the Call Through user in order to call the PBX for Call Through.

   Note: Call Through telephone numbers are not available for call distribution and cannot be rerouted.

3. Enter a value in the **Max. number of Call Through calls** entry field under **Call assignment**. The following entries are possible:

   0 to **2**: A maximum of 0 to 2 Call Through calls can be made simultaneously.

Further steps:

– *Save your settings before you leave the page.*

Creating Call Through Users

The telephone numbers on the mobile phone (call through user) which are used to carry out the Call Through function must be entered in the telephone book. Call Through authorization must be enabled for the telephone book entries in question. In addition, it can be configured whether the telephone number dialled by the Call Through user should be checked to see if it is a call restrictor or call deblocker number.

The creation can be carried out as follows:

- Via the configuration manager

Note: Only the telephone numbers on an ISDN connection can be used as external telephone numbers for the Call Through function. When making a call using VoIP, there is no guarantee that the displayed telephone number is the actual telephone number. The Call Through user can therefore not be detected with certainty.

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*

– *Telephone number for the Call Through user entered in the telephone book*

– *Expert view (click E)*

1. Open the page **USER DATA > Telephone book > Entries**.
2. Select or clear the **Call through** check box for the telephone book entry in question.
   - ☑ Enables Call Through authorization.
   - ☐ Disables Call Through authorization.
3. Select or clear the **Call restrictor/deblocker** check box for the telephone book entry in question.
   - ☑ Enables verification for call restrictor/deblocker numbers.
   - ☐ Disables verification for call restrictor/deblocker numbers.

Further steps:

– *Save your settings before you leave the page.*

Call Waiting

If you are already in a call, the call waiting function notifies you using the call waiting tone when another communication partner is calling.

Switching Call Waiting On/Off

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager
- On the system telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB using the menu/function key (see the telephone manual)

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > User settings**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **Call waiting** check box.
   - ☑ Enables call waiting.
   - ☐ Disables call waiting.

Further steps:

– *Save your settings before you leave the page.*

– *When using an ISDN telephone: If necessary, also enable call waiting on the telephone itself (see the telephone manual).*

CLIP Texts

CLIP texts are displayed on the system telephones and/or the CLIP-capable analog telephones for specific calls (e.g., for wake-up calls).

Configuring CLIP Texts

CLIP texts can configured for the following calls and functions:

- **Callbacks**: The configured CLIP text is displayed on analog telephones during a callback (on busy or on no reply).
- **CCBS callbacks**: The configured CLIP text is displayed on system telephones during a callback on busy.
- **CCNR callbacks**: The configured CLIP text is displayed on system telephones during a callback on no reply.
- **Wake-up calls**: The configured CLIP text is displayed on analog telephones during a wake-up call.
- **Exchange line reservation**: The configured CLIP text is displayed on analog telephones during a call to signal that a line that was previously busy has become available.
- **TAPI**: The configured CLIP text is displayed on analog telephones during a call that signals the LAN-TAPI function.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *A COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB system telephone or an analog telephone with CLIP information alpha-numerically*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *CLIP info enabled for analog subscribers*
– ***Telephone number display (CLIP)**: **CLIP info** and **Extended CLIP info** enabled for the subscriber*

1. Open the page **FUNCTIONS > CLIP texts**.

2. Enter the CLIP texts in the corresponding entry fields under **Callback**, **Wake-up call**, **Exchange line reservation** and **TAPI**. The following entries are possible:

   Up to 16 digits

   Digits and characters

Further steps:
– *Save your settings before you leave the page.*

Configuration Switchover

If multiple configurations have been saved, for example, for day, night, etc., switching over from one configuration to another can be carried out manually and/or in a time controlled manner.

Configuration-dependent Functions

Some functions can, e.g., be configured differently according to the day, night, weekend, vacation or holidays. They are also assigned to different configurations and switched depending on the configuration.

The following functions are configuration-dependent:

- Exchange line authorization
- Do-not-disturb
- Baby call
- Busy on Busy
- Call deblocker (incoming and outgoing)
- Multi-path call forwarding
- Call distribution
- Call restrictor (incoming and outgoing)
- Energy savings function (economy mode)
- VoIP/GSM Routing

Carrying out a Configuration Switchover Manually

Performing this procedure can be carried out as follows:

- Using a character string on the internal telephone
- Using a character string on an external telephone
- On the system telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB using the menu/function key (see the telephone manual)
- Via the configuration manager (see the portal page **Configuration switching**)

Performing a Configuration Switchover Manually via an Internal Telephone

Requirements:

– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
– *Authorization **Configuration switching** assigned to the subscriber*
– *At least two configured configurations*

1. Pick up the receiver.
2. Dial **##8*81**.
3. Enter the identification number for the configuration.
4. Dial **#**.

Note: If the automatic configuration switchover is enabled simultaneously, the configuration configured here is applicable until the next switching time.

Performing a Configuration Switchover Manually via an External Telephone

Requirements:

– *More than one external phone number (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*
– *Configured remote switching number and external PIN*
– *Analog DTMF telephone, ISDN telephone with DTMF signaling or DTMF generator*
– *At least two configured configurations*

1. Pick up the receiver of the external telephone.
2. Enter the remote switching number.

   You will hear the external confirmation tone (1 second).
3. Dial **##8**.
4. Enter the external PIN.
5. Dial ***81**.
6. Enter the identification number for the configuration.
7. Dial **#**.

   You will hear the external confirmation tone (1 second).

Note:

If you wait too long before entering the characters or enter an invalid character string, you will hear the busy tone. In this case, hang up the receiver and start over.

If the automatic configuration switchover is enabled simultaneously, the configuration configured here is applicable until the next switching time.

Switching Authorization for Configuration Switching On/Off

If authorization for switching configurations is enabled, the subscriber in question can switch configurations manually.

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Authorizations**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **Configuration switching** check box.
   - ☑ Enables authorization for switching configurations.
   - ☐ Disables authorization for switching configurations.

Further steps:

– *Save your settings before you leave the page.*

Creating Configurations

A maximum of eight configurations can be created.

The creation can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*

1. Open the page **FUNCTIONS > Configurations > Create configurations**.
2. Enter the name of the configuration in the **Configuration name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters
3. In the **Identification number** entry field, enter the identification number for the configuration. The following entries are possible:

   2 to 4 digits

   Note:

   An overview of all previously assigned ID numbers can be opened in the configuration manager by selecting **Identification numbering plan** in the list field and then clicking . To close the overview, click **Close**.

   The overview can be printed by clicking **Print**.

   ---
4. Click the **Color** check box and select the color you want for the configuration.

Further steps:
– *Save your settings before you leave the page.*

Copying Configurations

Configuration settings can be taken from one configuration and used in other selected configurations.

Copying can be carried out as follows:

- Via the configuration manager

Copying a Complete Configuration

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *At least two configured configurations*
– *Expert view (click E)*

1. Open the page **FUNCTIONS > Configurations > Create configurations**.
2. Click **Copy configuration**.
3. In the **Copy configuration from** list field, select the configuration which contains settings to be copied.
4. In the **to** list field, select the configuration to which the settings should be copied.
5. Click **Copy configuration**.
6. Click **Next**.

Copying Parts of the Configuration

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *At least two configured configurations*
– *Expert view (click E)*

1. Open one of the following pages:
   - **PROPERTIES > Internal subscribers > Subscriber properties** for the parts exchange line authorization, do-not-disturb, baby call, call deblocker, call restrictor
   - **CONFIGURATION > Call distribution > Create call distribution** for the parts Busy on Busy, multi-path call forwarding, call distribution
2. Click the tab of the configuration of which the settings are to be copied.
3. For the parts exchange line authorization, do-not-disturb, baby call, call deblocker, call restrictor:
   a) Open the page **PROPERTIES > Internal subscribers > Subscriber properties (configuration-dependent).**

b) Only select the check boxes of the functions which are to be activated depending on the configuration.

c) Configure the required settings for the activated functions.

d) Click .

4. In the **Apply settings in configuration** list field, select the configuration to which the settings are to be copied.

5. Click **Copy**.

Switching Automatic Configuration Switchover On/Off

If automatic configuration switchover is enabled, time-controlled configurations are toggled according to the PBX internal clock.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Minimum of two configured configurations and configured switching times*
– *current PBX time*

1. Open the page **FUNCTIONS > Configurations > Settings**.

2. Select or clear the **Automatic configuration switching** check box.
   ☑ Enables automatic configuration switching.
   ☐ Disables automatic configuration switching.

Further steps:
– *Save your settings before you leave the page.*

Creating Switching Times for Switching the Configuration

A configuration applies until another configuration (manual or automatic) is enabled, also beyond the daily change. An exception to this would be activated holidays. When the holiday ends at 12 a.m., a switch is made back to the regular configuration for that weekday (even if the configuration was enabled manually on the holiday). At the beginning of the holiday, the configuration from the day before remains valid until the switchover occurs (automatically or manually). This means that if, e.g., a holiday is followed by another holiday, the last valid configuration for the previous holiday remains enabled until a configuration switchover occurs on the second holiday.

Note:

An activated holiday is taken into account from 12 p.m. of the one day until 12 p.m. on the following day.

On an activated holiday, the switching times for the corresponding weekday are taken into account if no holiday switching times have been entered (holiday).

The creation can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *At least two configured configurations*
– *For using the holidays: Configured and activated holidays*

1. Open the page **FUNCTIONS > Configurations > Create switching times**.
2. Select the desired day in the **Day** list field.
3. Enter the time in the line of the corresponding day in the **Time** entry field under **hh** and **mm**. The following entries are possible:

   Time in hh format: mm

   00 to **23**: Hours (hh)

   00 to **59**: Minutes (mm)

Note: When you save your settings, the minutes entered are rounded down automatically to steps of five, so that at the end there is either a 0 or a 5.

(Example: When you enter 34 minutes, this value is rounded down to 30 minutes.)

4. Select the desired configuration in the **Configuration** list field.

Further steps:
– *Save your settings before you leave the page.*
– *Enable the automatic configuration switchover.*

Copying Switching Times

Created switching times can be copied from one weekday to another. Doing this, existing switching times of the target weekday (**to**) are replaced by the switching times of the source weekday (**Copy switching times from**).

Copying can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click)*
– *Created switching times*

1. Open the page **FUNCTIONS > Configurations > Create switching times**.
2. Click **Copy switching times**.
3. In the **Copy switching times from** list field, select the weekday, whose switching times should be copied.
4. In the **to** list field, select the weekday to which the switching times should be copied.
5. Click **Copy switching times**.

Overview of the Configured Switching Times

The overview of the configured switching times shows the time periods the configurations are valid (day times from 12 p.m. of one day to 12 p.m. of the next day). Refer to the legend to see what the colors for the configured configurations mean.

Note:

The overview can be opened in the configuration manager by selecting **Configuration switching times** in the list field next to and then clicking . To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

The overview can be configured as an element on the portal page (**Configuration switching**).

Do-not-disturb

The do-not-disturb function offers the option of blocking internal and external calls as well as blocking group calls on a specific telephone. A caller hears only a busy signal. An internal subscriber can reach a telephone with call protection in an emergency using a priority call.

The do-not-disturb function has no influence on outbound calls, callbacks, wake-up calls or InterCom calls.

Switching the Do-not-Disturb Function On/Off

Switching this on/off can be done as follows:

- Separately for subscribers
- Separately for configurations
- Via the configuration manager
- Using a character string on the internal telephone
- On the system telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB using the menu/function key (see the telephone manual)

Switching Do-not-Disturb On/Off via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > User settings**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **Do-not-Disturb** check box.
   - ☑ Enables the do-not-disturb function.
   - ☐ Disables the do-not-disturb function.

Further steps:

– *Save your settings before you leave the page.*

Switching the Do-not-Disturb Function On/Off via the Internal Telephone

Requirements:

– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*

1. Pick up the receiver of the telephone in question.
2. Dial one of the following character strings:

   ##8*211#: Enables the do-not-disturb function.

   ##8*210#: Disables the do-not-disturb function.

Energy Savings Function (Economy Mode)

Economy mode provides the option of either switching off all of the LEDs on the PBX or switching off all of the LEDs except for the "Power" LED. This is not lit constantly, but flashes slowly.

Depending on the configuration, economy mode is enabled when the switches to a specific configuration.

Switching Energy Savings Function (Economy Mode) On/Off

Requirements:

– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured configuration and switching times*

1. Open the page **FUNCTIONS > Configurations > Creating configurations**.
2. In the **ECO mode** list field under the corresponding configuration, select one of the following options:

   off: Disables economy mode.

   only "Power" LED on: Enables economy mode. All of the LEDs except for the "Power" LED are disabled.

   all LEDs off: Enables economy mode. All of the LEDs are disabled in this case.

Further steps:

– *Save your settings before you leave the page.*

Exchange Line Authorization

The exchange line authorization detemines which type of telephone numbers can be dialled by a subscriber (e.g., telephone numbers in the local telephone network).

Configuring Exchange Line Authorization

> **Note:** A subscriber needs at least the **only incoming, with emergency call** exchange line authorization to accept incoming external calls.

The following exchange line authorizations can be configured:

- **international**: All international and domestic telephone numbers can be dialled.
- **national**: All domestic telephone numbers can be dialled.
- **City**: All telephone numbers without a provider area code can be dialled.

> **Note:** If GSM access is used for an outgoing call, the PBX automatically dials the telephone number with the configured local area code (national destination code).

- **only incoming, with emergency call**: Emergency numbers can be dialled, and incoming external calls are accepted.
- **only internal, with emergency call**: Emergency numbers can be dialled, but no incoming external calls are accepted.
- **internal only, no emergency calls**: No external calls can be made.
- **exchange line dependent**: The exchange line authorization can be configured separately for the configured external connections (e.g., analog and VoIP, ISDN and VoIP).

The configuration can be made as follows:

- Separately for subscribers
- Separately for business and personal calls
- Separately for configurations
- For the exchange line transfer function (**FUNCTIONS > Transfer > Exchange line transfer**)
- For the call through function (**FUNCTIONS > Call Through > Exchange line settings**)
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *For personal calls: Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Exchange line settings**.

2. In the list field at the top, select the subscriber in question by his name or number.

3. Select one of the following options in the **business** and **private** list fields under **Exchange line authorization**:

   [exchange line authorization]: Selects the exchange line authorization you want. (No other action is required.)

   exchange line dependent: A list field for selecting the exchange line authorization is opened for each external connection configured.

   Note:

   The exchange line authorizations granted can be limited to certain telephone numbers using a call restrictor.

   Using a call deblocker, certain telephone numbers can be added to the exchange line authorizations granted here.

   The short-code dialling number authority enables the dialling of all the telephone numbers entered in the short-code memory.

   A subscriber's exchange line access can also be hindered by an empty call allowance account.

   ---

4. Select the desired exchange line authorizations for the separate external connections from the list fields.

Further steps:

– *Save your settings before you leave the page.*

Exchange Line Transfer

A suitably authorised system telephone, for example, the telephone exchange, can transfer the exchange line access required for an outgoing call to another internal telephone for a short period of time. This is meaningful, for example, when this telephone is located in a publicly accessible room and is only occasionally used for external calls by an employee.

Exchange Line Transfer Sequence

The exchange line transfer proceeds as follows:

- The requesting telephone must initiate an internal call using the system telephone authorized to make the exchange in order to request exchange line access.
- After the function key assigned to exchange line transfer has been pressed on the system telephone authorized for making exchanges, a confirmation tone is issued to both internal subscribers and the internal call must be ended.
- The requesting telephone now has access to the exchange line settings configured for this purpose. These exchange line settings remain until the first successful, outgoing external call or until the time limitation has elapsed for initiating the external call.

Configuring an Exchange Line Transfer

Requirements:

– *System telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB*

– *Internal S_0 port (only available on the optional COMpact S_0 module or COMpact ISDN module) or internal VoIP channels (COMpact 3000 VoIP or VoIP channels acquired in the Upgrade Center and released)*

1. Configure a function key for the exchange line transfer on the system telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB.

2. Enable the authorization **Transfer of external calls externally** for the transferred telephone.

3. At minimum, configure the business exchange line authorization **Only inbound, with emergency call** for the requesting telephone.

4. Configure the following settings that apply to all of the telephones:

   The exchange line settings for the exchange line access to be transferred

   Callback option

   Subscribers for the charge burden

   Time limit for initiating an external call

Configuring the Exchange Line Settings for Exchange Line Access to be Transferred

You can configure which exchange line settings (e.g., exchange line authorization, call restrictor (outgoing), call deblocker (outgoing)) should apply to the telephone after the transfer. When this is done, either special exchange line settings can be configured or you can fall back on the exchange line settings of the line to be transferred.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *System telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB*

– *Internal S_0 port (only available on the optional COMpact S_0 module or COMpact ISDN module) or internal VoIP channels (COMpact 3000 VoIP or VoIP channels acquired in the Upgrade Center and released)*

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **FUNCTIONS > Transfer**.

2. Select on of the following options in the **Exchange line settings for the manually switched exchange line access** list field under **Exchange line transfer**.

   Configure special exchange line settings: Special exchange line settings are configured for the telephone.

   Exchange line authorization of the switching subscriber: After the transfer, the telephone takes on the transferred exchange line settings after the transfer has been made. (No other action is required.)

3. Configure the exchange line settings you want.

Note: Enabling/disabling or selecting an option for **Configure special exchange line settings** can be carried out as described in the help topics

(?). You do not have to carry out steps 1 and 2 described in the help topic (opening the page + selecting the subscriber).

Further steps:
– *Save your settings before you leave the page.*

Switching the Callback Option On/Off

If the callback option is enabled, the requesting subscriber can trigger a callback after initiating an external call.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– *System telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB*
– *Internal S_0 port (only available on the optional COMpact S_0 module or COMpact ISDN module) or internal VoIP channels (COMpact 3000 VoIP or acquired in the Upgrade Center and released VoIP channels)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*

1. Open the page **FUNCTIONS > Transfer**.
2. Select or clear the **Callback option** check box under **Exchange line transfer**.
   - ☑ Enables the callback option.
   - ☐ Disables the callback option.

Further steps:
– *Save your settings before you leave the page.*

Configuring Subscribers for the Charge Burden

It must be defined which of the two subscribers should be billed the charges for a call.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *System telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB*

– *Internal S_0 port (only available on the optional COMpact S_0 module or COMpact ISDN module) or internal VoIP channels (COMpact 3000 VoIP or VoIP channels acquired in the Upgrade Center and released)*

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **FUNCTIONS > Transfer**.
2. Select one of the following options in the **Charge burden** list field under **Exchange line transfer**.

   Transferring subscriber: The charges are billed to the transferring subscriber.

   Requesting subscriber: The charges are billed to the requesting subscriber.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Time Limit for Initiating an External Call

The time limit for initiating an external call indicates how many minutes the exchange line access will persist at maximum if a call is not initiated successfully.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *System telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB*

– *Internal S_0 port (only available on the optional COMpact S_0 module or COMpact ISDN module) or internal VoIP channels (COMpact 3000 VoIP or acquired in the Upgrade Center and released VoIP channels)*

– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*

1. Open the page **FUNCTIONS > Transfer**.
2. Enter a value in the **Time limit for initiating an external call** entry field under **Exchange line transfer**. The following entries are possible:

   1 to **60**: The exchange line settings persist 1 to 60 minutes.

Further steps:
– *Save your settings before you leave the page.*

InterCom Announcement/Handsfree

The InterCom function enables an announcement to a system telephone (COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB) from any internal telephone without someone having to actively receive a call (for example, in a doctor's office).

Furthermore, the caller's system telephone can be programmed to switch on the microphone in addition to the loudspeaker (handsfree) so that a person nearby can speak with the caller using this intercom system.

InterCom Announcement / InterCom Handsfree Procedure

InterCom announcement and InterCom handsfree are carried out as follows:

- A system telephone is called using the InterCom function.
- After a few rings, the system telephone automatically picks up the call.
- Announcement or hands-free calling is executed.

> **Note:** Announcement or hands-free calling is limited to 120 seconds due to security reasons in order to prevent possible misuse of this function (for example, eavesdropping from remote rooms).

- After 120 seconds has elapsed, the connection is automatically interrupted unless the system telephone receiver is picked up during this time.

Initiating InterCom Announcement/Handsfree

Initiation can be carried out as follows:

- Using a character string on the internal telephone
- On the system telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB using the function key (see the telephone manual)

Requirements:

– *Internal S_0 port (only provided on the COMpact S_0 module or COMpact ISDN module available as an option) or internal VoIP channels (COMpact 3000 VoIP or acquired in the Upgrade Center and released VoIP channels)*

– *Enabled InterCom authorization at the InterCom destination*

1. Pick up the receiver.
2. Dial one of the following character strings:

##011: Initiates an InterCom announcement.

##012: Initiates InterCom handsfree.

3. Enter the internal phone number of the system telephone. The following entries are possible:

   **** and internal telephone number of the individual system telephone** (If you do not use a direct exchange line access, omit the **.)

   The system telephone automatically takes the call after a single ring.

Switching InterCom Permission On/Off

If InterCom permission is enabled, InterCom announcement or InterCom handsfree is enabled on the InterCom destination in question.

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager
- On the system telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB using the menu/function key (see the telephone manual)

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *System telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB*

– *Internal S_0 port (only provided on the COMpact S_0 module or COMpact ISDN module available as an option) or internal VoIP channels (COMpact 3000 VoIP or acquired in the Upgrade Center and released VoIP channels)*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Authorizations**.

2. In the list field at the top, select the subscriber in question by his name or number.

3. Select or clear the **InterCom (announcement/handsfree speaking)** check box.

   ☑ Enables InterCom permission.

   ☐ Disables InterCom permission.

Further steps:

– *Save your settings before you leave the page.*

LAN-TAPI

The LAN-TAPI from Auerswald provides the TAPI 2.1 interface over the Ethernet port on the PBX.

A Microsoft server then distributes the functionality throughout the network (third party network connection) onto the separate Microsoft computers so that telephony software, e.g., Estos ProCall or other TAPI applications can use the TAPI functions. The PBX is addressed by the server over the Ethernet interface. When a user wants to dial from the client PC, the command is forwarded to the server. The server signals this to the PBX which then establishes the connection.

LAN-TAPI Functions

LAN-TAPI supports the following functions:

- Display of the called MSN (multi-company operation)
- Call forwarding (CFU, CFB, CFNR)
- Call deflection (forwarding before call acceptance)
- Transfer
- Conference call
- Splitting
- Monitoring (status display of the private branch exchange)
- Pickup

Note: The possible functions are dependent on the end devices/applications used.

Configuring Subscribers for LAN-TAPI

All subscribers that should be controlled over a PC must be configured for LAN-TAPI.

The following telephones connected to the PBX are supported by the LAN-TAPI:

- COMfortel VoIP 2500 AB system telephone (as of firmware version 4.0B)
- COMfortel 1100/1500/2500/2500 AB system telephone (as of firmware version 4.0B)
- ISDN telephone
- Analog telephone

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **FUNCTIONS > LAN TAPI > LAN TAPI subscribers**.
2. Select or clear the check box next to the corresponding subscriber.
   - ☑ Selects the subscriber for LAN-TAPI.
   - ☐ Clears the subscriber for LAN-TAPI.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Network Port on the TAPI Server

According to the factory settings, the network port on the TAPI server is pre-defined at 7001 by default.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **FUNCTIONS > LAN TAPI > LAN TAPI configuration**.
2. In the **Network port (1024-65535)** under **TAPI server** entry field, enter the port number on the TAPI server. The following entries are possible:

   1024 to **65535**

Further steps:

– *Save your settings before you leave the page.*

Configuring the Password for the Network Connection on the TAPI Server

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **FUNCTIONS > LAN TAPI > LAN TAPI configuration**.

2. Enter the password in the **Password for the network connection of the TAPI server** entry field. The following entries are possible:

   6 to 8 characters

   Digits and characters

Further steps:

– *Save your settings before you leave the page.*

Installing TAPI driver (TSP)

The PBX must be connected with a server PC via a TCP/IP network. The TAPI driver (TSP) that belongs to the PBX must be installed on this server PC from the Auerswald Mega Disk.

Important: If you would like to integrate the LAN-TAPI into an existing network, please contact the system administrator responsible for this. Making changes to an existing network may cause considerable functional disturbances.

Note: Instead of the driver on the accompanying Auerswald Mega Disk, you can download – if available – a newer version from the Auerswald Web site.

Requirements:

– *Auerswald Mega Disk*

– *Server PC that fulfills one of the following system requirements:*

  - *Windows XP SP3 32/64-bit*
  - *Windows Vista SP1 32/64-bit*
  - *Windows 2000 Professional/Server SP4*
  - *Windows 2003 Server SP2 32/64-bit*
  - *Windows 2008 Server 32/64-bit*
  - *Terminal server: Windows 2000 SP4, 2003 SP2 32/64-bit, 2008 32/64-bit*

1. Start the Auerswald Mega Disk on the server PC.
2. Open the software page for the COMpact 3000. Click **TAPI service providers** under **Drivers**.

   The TAPI driver installation is started.
3. Follow the installation by clicking **Next**.
4. Depending on the driver version, the driver may need to be activated at this point. If you do not yet want to activate it, click the **Später freischalten** button.
5. In the **IP address of the PBX** entry field, enter the IP address of the PBX. Enter the network port of the TAPI server in the **Port** entry field. Enter the password for the network connection of the TAPI server in the **Password** and **Repeat password** entry fields. Click **OK**.
6. Click **Close**.
7. Restart the PC.

Restarting the TAPI Server

Performing this procedure can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*

1. Open the page **FUNCTIONS > LAN TAPI > LAN TAPI configuration**.
2. Click **Restart** under **Restart TAPI server**.

   The TAPI server restarts.

Further steps:
– *Save your settings before you leave the page.*

Checking the Function of the LAN-TAPI

To perform a simple function check of the TAPI driver (TSP) as well as the settings configured in the PBX, use the dialling help on Windows on the server PC.

Checking can be carried out as follows:

- Via the server PC

Checking the Function of the LAN-TAPI on the Windows XP

Requirements:

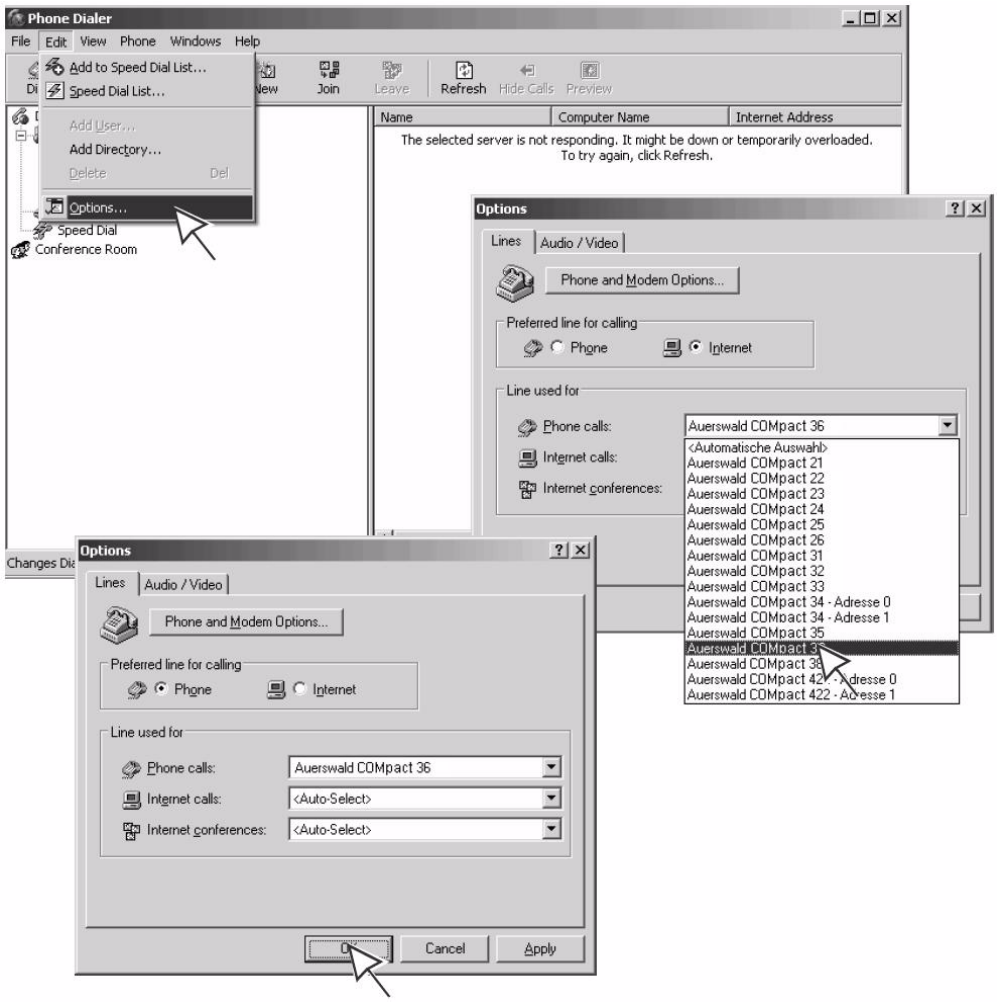
– A completed TAPI drive installation on the server PC

1. Start Windows dialling help. To do this, click **Start > Execute**, enter **dialer.exe** in the **Open** entry field and click **OK**.

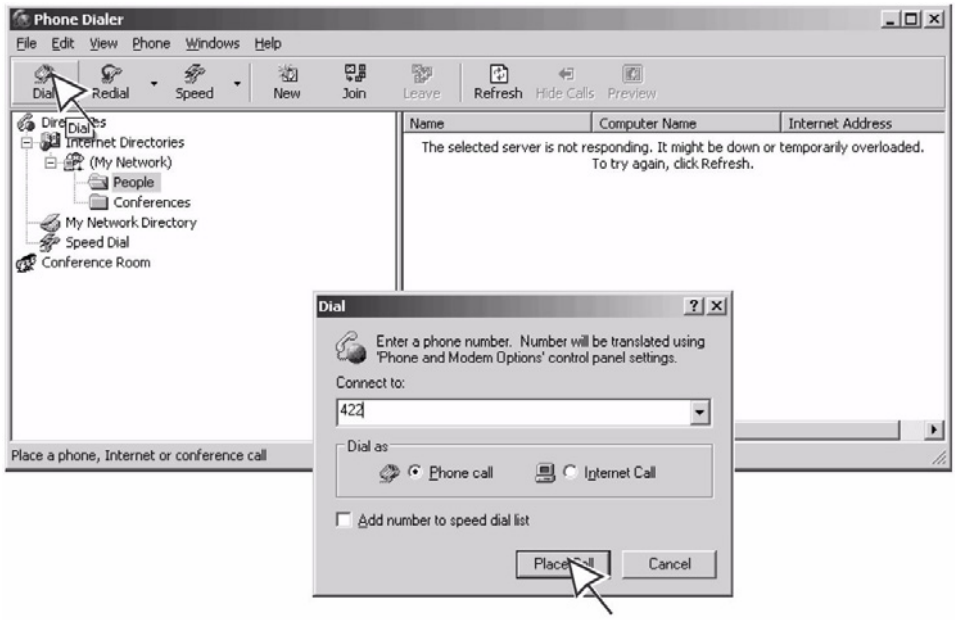
2. Click **Edit > Options…**.

   In the **Phone calls** list field, select one of the telephones offered for controlling.

   Click **OK**.



3. Click **Dial** and enter an internal or external telephone number. Enter the telephone number exactly as you would dial it and click **Dial**.



The controlled telephone is called. As soon as you pick up the receiver, the destination number dialled (in this example: 422) is called.

Check the Function of the LAN-TAPI on the Windows 2003 Server

Requirements:

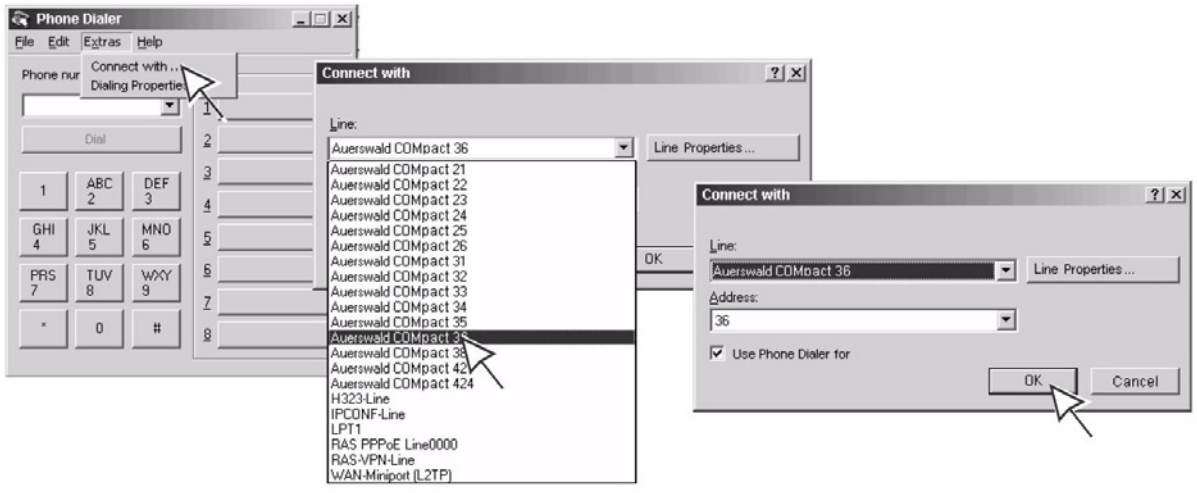
– *A completed TAPI drive installation on the server PC*

1. Start Windows dialling help. To do this, click **Start > Execute**, enter **dialer.exe** in the **Open** entry field and click **OK**.

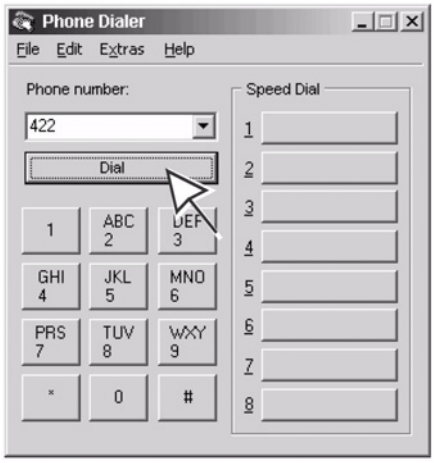
2. Click **Extras > Connect with...**.

   In the **Line** list field, select one of the telephones offered for controlling.

   Click **OK**.



3. In the **Telephone number** entry field, entry an internal or external telephone number. Enter the telephone number exactly as you would dial it and click **Dial**.



The controlled telephone is called. As soon as you pick up the receiver, the destination number dialled (in this example: 422) is called.

LCR

LCR (Least Cost Routing) is a function of the PBX that enables the subscriber to automatically make calls using the most cost-effective telephone service provider. To set this up, the function must be configured and the current tariff structure of the telephone service providers to be used saved in the tariff tables on the PBX.

LCR Sequence

The automatic LCR runs as follows:

- A user on the LCR subscriber or a Call Through user (when LCR is enabled for Call Through calls) dials an external phone number.
- The PBX controls whether the area code is entered in the tariff groups.
- If the provider area code is found, the PBX initiates the dial attempt automatically via the selected providers.

Note:

Automatic LCR is not carried out for the entered emergency numbers (**CONFIGURATION > Emergency call > Emergency numbers**).

If a call is initiated via a targeted exchange line access, automatic LCR is not carried out.

Configuring LCR

Requirements:

– *Support of call-by-call by the network provider*

– *External analog port (only COMpact 3000 analog) or external S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*

Configure LCR as follows:

1. Enable LCR on the external port.
2. Select the subscribers on which automatic LCR should be carried out.
3. If necessary, enable LCR for Call Through calls.

4. Make sure you have current LCR data:
   - Import data (Soft LCR 4.0)
   - Enter data manually (Soft LCR 4.0):

     LCR providers

     Tariff groups (LCR networks and the corresponding LCR prefixes)

     Tariff information (LCR tables)
5. Create the holidays in the calendar on the PBX and enable them for LCR.

Switching LCR on the External Connection On/Off

If LCR is enabled on the external connection, the external port is used for LCR calls.

> **Note:** Manual LCR by dialling a preceding provider area code is always possible if the network provider supports call-by-call.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *External analog port (only on the COMpact 3000 analog) or external S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the connection in question.

   A page opens for configuring the connection in question.
3. Open one of the following pages:
   - **Analogue connection > Name and functions**
   - **ISDN connection > Name and functions**

4. Select the **LCR** option button under **Special connection functions**.
   - ◉ Enables the automatic LCR on the connection.
   - ○ Disables the automatic LCR on the connection.

Note: If the network provider does not support LCR, the LCR must be disabled (◉ **No**).

Further steps:
– *Save your settings before you leave the page.*

Configuring Subscribers for LCR

Note:

LCR for Call Through calls is switched on/off on the page **FUNCTIONS > Call Through** under **Settings**.

Manual LCR by dialling a preceding provider area code is always possible if the network provider supports call-by-call.

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Least Cost Routing > LCR subscribers**.
2. Select or clear the check box next to the corresponding subscribers.
   - ☑ Enables automatic LCR for the subscriber.
   - ☐ Disables automatic LCR for the subscriber.

Further steps:
– *Save your settings before you leave the page.*

Importing the LCR Configuration (Providers, Tariff Groups and Data)

Using special tariff calculators (e.g., Telefon-Sparbuch.de), you can calculate an LCR configuration and import this into the PBX.

Caution: When importing configuration data, existing LCR data is deleted.

The import can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *A saved configuration file (*.xml, *.txt, also compressed *.gz) on a data storage medium (PC)*

1. Open the page **FUNCTIONS > Least Cost Routing > LCR data**.
2. Click **Browse** (this text is dependent on the operating system used) under **Import LCR data**.

   A file selection dialog opens.
3. Select the LCR file to be imported and click **Open** (this text is dependent on the operating system used).

   The path and the file are displayed in the entry field.
4. Click **Store in PBX**.

   The configuration data is imported and displayed in the corresponding tables (**LCR providers**, **LCR networks**, **LCR prefixes**, **LCR tables**).

Creating Providers

The provider list provides space for up to 50 call-by-call providers.

The creation can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Least Cost Routing > LCR providers**.
2. Enter a name in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters
3. In the **Provider area code** entry field, enter the provider area code without an exchange line access number. The following entries are possible:

   Up to 20 digits

   Digits
4. Click .
5. Repeat step 2 to 4 to create additional entries.

Further steps:
– *Save your settings before you leave the page.*
– *Create the networks for the tariff groups.*
– *Create for the networks the corresponding prefixes to complete the tariff groups.*
– *Enter the tariff information in the LCR tables.*

Creating Default Networks Based on a Provider Area Code

The tariff groups **City**, **Region**, **National** and **International** can automatically be created based on the local area code. They include the data for the **LCR networks** and the corresponding **LCR prefixes**.

Caution: When networks are automatically created, the existing LCR data are deleted.

The creation can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Least Cost Routing > LCR networks**.
2. Enter the local area code in the entry field in the last row.

3. Click **Create LCR networks automatically with help of the area code**.

Further steps:
– *Save your settings before you leave the page.*
– *Enter the tariff information in the LCR tables.*

Creating Networks Manually

Up to 60 networks can be generated.

> **Note: LCR networks** and the corresponding **LCR prefixes** can automatically be created based on the local area code (**FUNCTIONS > Least Cost Routing > LCR networks** under **Create LCR networks automatically with help of the area code**).

The creation can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Least Cost Routing > LCR networks**.
2. Enter a name for identification in the first available **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters
3. Click .

   The network has been added to the list.
4. Repeat steps 2 to 3 to create additional entries.

Further steps:
– *Save your settings before you leave the page.*
– *Create the corresponding prefixes for the networks to complete the tariff groups.*
– *Enter the tariff information in the LCR tables.*

Creating Prefixes for Networks Manually

A prefix contains the prefix or all of the prefixes from the area that should be collected for the network (e.g., local telephone network, regional network, international network).

Up to 1000 entries (name and area code/area code range) can be created for all networks in total.

> **Note: LCR networks** and the corresponding **LCR prefixes** can automatically be created based on the local area code (**FUNCTIONS > Least Cost Routing > LCR networks** under **Create LCR networks automatically with help of the area code**).

The creation can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Configured LCR network*

1. Open the page **FUNCTIONS > Least Cost Routing > LCR networks**.
2. Click in the line of the corresponding network.
3. In the list field at the top, select the network in question using its name.
4. Open the page **FUNCTIONS > Least Cost Routing > LCR prefixes**.
5. Enter a name for identification in the first available **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters
6. In the **Area code/Area code range** entry field, enter the corresponding digit sequence for an area code or area code range.
7. Click .

   The digit sequence has been added to the list.
8. Repeat steps 4 to 7 to create additional entries.

Further steps:
– *Save your settings before you leave the page.*
– *Enter the tariff information in the LCR tables.*

Creating Tariff Information for Networks

Tariff information determines which providers are used for dialling LCR calls, depending on the day and hour.

Note:

LCR requires correct system data (date and time; **CONFIGURATION > PBX time**).

Valid holidays for LCR are to be switched on the PBX calendar **USER DATA > Calendar > Holidays**.

The creation can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Configured LCR networks*
– *Holidays configured and enabled for LCR*
– *Configured LCR providers*

1. Open the page **FUNCTIONS > Least Cost Routing > LCR networks**.
2. Click in the line of the corresponding network.
3. In the list field at the top, select the network in question using its name.
4. Open the page **FUNCTIONS > Least Cost Routing > LCR tables**.
5. In the **Day** list field, select one of the following options:

   Monday to **Sunday**: The dial attempt is only carried out on the selected weekday via the corresponding provider.

   Holiday: The dial attempt is only carried out on a holiday valid for LCR via the corresponding provider.

Mon-Fri: The dial attempt is carried out from Monday to Friday via the corresponding providers.

Son, holiday: The dial attempt is carried out on every Sunday and on a holiday valid for LCR via the corresponding provider.

Sat-Son, holiday: The dial attempt is carried out on every Saturday, Sunday and on a holiday valid for LCR via the corresponding provider.

Mon-Son, holiday: The dial attempt is always carried out via the corresponding provider.

6. In the **Time** entry field under **hh** and **mm**, enter the time point starting on the corresponding **day** when the dial attempt is to be carried out via the corresponding provider. The following entries are possible:

   Time in hh format: mm

   00 to **23**: Hours (hh)

   00 to **59**: Minutes (mm)

7. In the **1st dial attempt (main provider)** list field, select one of the following options:

   no LCR: The dial attempt is not initiated without a provider area code.

   generate busy: The dial attempt is ended and a busy tone is issued.

   Provider name: The dial attempt is initiated using the area code entered under **FUNCTIONS > Least Cost Routing > LCR providers**.

8. In the list fields **2nd dial attempt (fallback provider 1)** and **3rd dial attempt (fallback provider 2)**, select one of the following options:

   no LCR: The dial attempt is not initiated without a provider area code.

   generate busy: The dial attempt is ended and a busy tone is issued.

   Provider name: The dial attempt is initiated using the area code entered under **FUNCTIONS > Least Cost Routing > LCR providers**.

Note:

During the dial attempt, if the selected provider under **1st dial attempt (main provider)** is busy, the selected provider under **2nd dial attempt (fallback provider 1)** is attempted, etc. If still no connection is established during the **3rd dial attempt (fallback provider 2)**, a busy tone is issued.

If the **1st dial attempt (main provider)** via the analog connection on the COMpact 3000 analog is unsuccessful, the dial attempt is automatically ended. There is no fallback to another provider.

---

9. Click .

10. Click under **Tariff**.

11. In the **Price per minute** entry fields, enter the corresponding values for the main provider and the fallback providers. The following entries are possible:

    Price in the 00.0000 format: Specifies the price per minute from 0.0000 to 99.9999.

    Digits and separator "," (comma)

    Note:

    The PBX uses **Price per minute** for internal calculations and display purposes during calls that are initiated by an LCR subscriber and perhaps a Call Through user and routed via the corresponding provider.

    The **Price per minute** refers to the currency entered in the PBX (**FUNCTIONS > Time and call allowance accounts > Settings** under **Currency**).

    ---

12. In the **Price per connection** entry fields, enter the corresponding values for the main provider and the fallback providers if the provider for each established connection invoices charges. The following entries are possible:

    Price in the 00.0000 format: Specifies the price per minute from 0.0000 to 99.9999.

    Digits and separator "," (comma)

    Note:

    The **Price per connection** is added to the price of the call – calculated from the **Price per minute** and connection time.

    The **Price per connection** refers to the currency entered in the PBX (**FUNCTIONS > Time and call allowance accounts > Settings** under **Currency**).

    ---

13. In the first **Meter pulse interval (1st pulse / second pulse)** entry fields, enter how many seconds the provider assigns the first meter pulse after the connection has been established (after CONNECT). The following entries are possible:

    1 to **6000** sec.: Specifies the first meter pulse from 1 to 6000 seconds.

    Note: This meter pulse is fully billed by the provider even if the call is ended before this time has elapsed.

    ---

14. In the second **Meter pulse interval (1st pulse / second pulse)** entry field, enter which metering pulse time unit is used to bill a call after the first meter pulse. The following entries are possible:

    1 to **6000** sec.: Specifies the second pulse from 1 to 6000 seconds.

    Note:

    For second pulses of differing lengths, enter the most unfavorable meter pulse.

    The provider bills each started meter pulse in full.

    ---

15. Repeat steps 4 to 14 to create additional entries.

Further steps:
– *Save your settings before you leave the page.*

Reading the LCR Configuration from the PBX

A completely created LCR configuration can be read out of the PBX and saved on the PC.

Data can be read out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Least Cost Routing > LCR data**.
2. Click **Read from PBX** under **Export LCR data**.

   A dialog for downloading the configuration file "softlcr.txt.gz" opens.
3. Save the configuration file on a data storage medium (PC).

Multi-path Call Forwarding

Multi-path call forwarding is used to signal external calls, in addition to call distribution for an internal or an external telephone number, e.g., on a mobile phone. Multi-path call forwarding is also executed if the "main telephone number" is, for example, busy. It is not executed when call forwarding for external numbers is enabled.

Switching Multi-path Call Forwarding On/Off

Switching this on/off can be done as follows:

- Separately for external telephone numbers
- Separately for configurations
- Via the configuration manager
- Using a character string on the internal telephone

Switching Multi-path Call Forwarding On/Off via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *For external destination numbers: At least two call channels*

1. Open the page **CONFIGURATION > Call distribution > Create call distribution**.

   All of the separate external telephone numbers entered and the corresponding group phone numbers (call distribution groups) are displayed horizontally across the table.

   Note: Click ▶ to scroll horizontally across the table to display other telephone numbers. Click ◀ to scroll back again.

2. In the **Multi-path Call Forwarding** entry field, enter the destination number. The following entries are possible:

   Up to 20 digits

   Exchange line access number + external phone number

   Short-code number

   Internal number of the individual telephone

   Internal number of the line group

Further steps:

– *Save your settings before you leave the page.*

Switching Multi-path Call Forwarding On/Off via an Internal Telephone

Requirements:

– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*

– *Subscriber is a member of the call distribution group*

1. Pick up the receiver of the telephone in question.
2. Dial **##97**.
3. Enter the telephone number of the call distribution group. The following entries are possible:

   **** and the internal telephone number of the call distribution group** (If you do not use direct exchange line access, omit the **.)

   Note:

   The telephone number of the call distribution group is found on the page **CONFIGURATION > Call distribution**.

   A subscriber is a member of a call distribution group if he is assigned to the call distribution group on the page **CONFIGURATION > Call distribution** in the column of the corresponding group telephone number (✓ or 🕒) .

   ---

4. Dial one of the following character strings:

   #*481#: Enables multi-path call forwarding with the existing destination number. (No other action is required.)

   ##481#: Disables multi-path call forwarding. (No other action is required.)

   #*481*: Enables multi-path call forwarding.

5. Enter the destination number. The following entries are possible:

   **** and the internal telephone number of the individual telephone** (If you do not use direct exchange line access, omit the **.)

   **** and the internal telephone number of the line group** (If you do not use direct exchange line access, omit the **.)

   External telephone number (If you do not use direct exchange line access, dial the exchange line access number before dialling the telephone number.)

   **** and the short code number** (If you do not use direct exchange line access, omit the **.)

6. Dial **#**.

Further steps:

– *To check whether multi-path call forwarding has been enabled or disabled, dial **##97**, the telephone number of the call distribution group and the character string **#*#481#**. If multi-path call forwarding is disabled, you will hear the busy tone.*

Music on Hold and Announcement

When transferring a call or in the case of a query call, a communication partner waiting in the background hears music on hold from the PBX, perhaps with an announcement played over the music.

Configuring Music on Hold or Restoring Default Music on Hold

The configuration can be made as follows:

- Via the configuration manager

The restoration can be carried out as follows:

- Using a character string on the internal telephone

Saving the Music on Hold from the PC into the PBX via the Configuration Manager

It is possible to save a WAVE file stored on the PC as music on hold in the PBX. The file is automatically named "wmusic.wav".

The WAVE file must have the following properties:

- Format: 16 kHz, 16-bit mono
- Maximum length: approx. 6 minutes
- Size in memory: max. 12 MB

> **Note:** If the WAVE file does not have the required properties you should convert it before you save it into the PBX. In the Internet you can find conversion programmes which can be downloaded for free. With the conversion programme **SoX** (Sound eXchange), version 14.3.1, for example, which can be downloaded via **SourceForge** (http://sox.sourceforge.net/), the conversion can be made using: sox.exe -V %1 -r 8000 -c 1 -A %1-ITK.wav.

Requirements:

– Configuration manager, opened with sufficient authorization

1. Open the page **FUNCTIONS > Music on hold/announcement > File and volume**.
2. In the **File** list field, select the **Music on hold** option.

3. Click **Browse** (this text is dependent on the operating system used) under **Store in the PBX**.

   A file selection dialog opens.

4. Select the file you want and click **Open** (this text is dependent on the operating system used).

   The path and the file name are displayed in the field next to **Browse**.

5. Click **Save**.

6. Click **OK**.

Saving Music on Hold on the PC via the Configuration Manager

The music on hold saved in the PBX ("wmusic.wav") can be saved on the PC as a backup copy.

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Music on hold/announcement > File and volume**.

2. In the **File** list field, select the **Music on hold** option.

3. Click **Read** under **Read from PBX**.

   A file location dialog opens.

4. Select the desired location and click **Save** (this text is dependent on the operating system used).

Setting the Volume of Music on Hold via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Music on hold enabled*

1. Open the page **FUNCTIONS > Music on hold/announcement > File and volume**.

2. In the **File** list field, select the **Music on hold** option.

3. Slide the **Volume** slider under **Settings** or enter a value in the entry field next to the slider. The following entries are possible:

0 to **100**: The playback volume of music on hold increases or decreases, depending on the value entered.

Further steps:
– *Save your settings before you leave the page.*

Setting the Volume of Music on Hold during the Announcement via the Configuration Manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Music on hold and announcement enabled*

1. Open the page **FUNCTIONS > Music on hold/announcement > Settings**.
2. Slide the **Volume of music on hold during the announcement** slider under **Announcement** or enter a value in the entry field next to the slider. The following entries are possible:

   0 to **100**: The playback volume of music on hold increases or decreases, depending on the value entered.

Further steps:
– *Save your settings before you leave the page.*

Deleting Music on Hold (Restoring Default Music on Hold) via an Internal Telephone

If the music on hold saved is deleted, the default music on hold is automatically restored.

Requirements:
– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
– *A configured sub-admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin PIN.
4. Dial ***5532#**.

Recording and Configuring the Announcement for Music on Hold

The recording can be made as follows:

- Using a character string on the internal telephone

The configuration can be made as follows:

- Via the configuration manager

Saving the Announcement for Music on Hold from the PC into the PBX via the Configuration Manager

It is possible to save a WAVE file stored on the PC as a music on hold announcement in the PBX. The file is automatically named "announce.wav".

The WAVE file must have the following properties:

- Format: 16 kHz, 16-bit mono
- Maximum length: approx. 1 minute
- Size in memory: max. 2 MB

> **Note:** If the WAVE file does not have the required properties you should convert it before you save it into the PBX. In the Internet you can find conversion programmes which can be downloaded for free. With the conversion programme **SoX** (Sound eXchange), version 14.3.1, for example, which can be downloaded via **SourceForge** (http://sox.sourceforge.net/), the conversion can be made using: sox.exe -V %1 -r 8000 -c 1 -A %1-ITK.wav.

Requirements:

– Configuration manager, opened with sufficient authorization

1. Open the page **FUNCTIONS > Music on hold/announcement > File and volume**.
2. In the **File** list field, select the **Announcement** option.
3. Click **Browse** (this text is dependent on the operating system used) under **Store in the PBX**.

   A file selection dialog opens.
4. Select the file you want and click **Open** (this text is dependent on the operating system used).

The path and the file name are displayed in front of **Browse**.

5. Click **Save**.
6. Click **OK**.

Recording an Announcement for Music on Hold via an Internal Telephone

Requirements:

– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*

– *A configured sub-admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin PIN.
4. Dial ***5631***.

   You will hear the confirmation tone.
5. To start recording the announcement, dial ***.
6. Say the text you have prepared.

   Note: The announcement text to be recorded can be up to 1 minute long. After this time, recording is automatically stopped, and you will hear the confirmation tone.
7. To stop recording, dial **#**.

   You will hear a hold tone. Then the announcement just recorded is played back.

   Note: To stop recording, you can also hang up the receiver.

Saving the Announcement for Music on Hold on the PC via the Configuration Manager

The music on hold announcement saved in the PBX ("announce.wav2) can be saved on the PC as a backup copy.

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Music on hold/announcement > File and volume**.
2. In the **File** list field, select the **Announcement** option.
3. Click **Read** under **Read from PBX**.

   A file location dialog opens.
4. Select the desired location and click **Save** (this text is dependent on the operating system used).

Setting the Volume of the Announcement for Music on Hold via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Enabled music on hold announcement*

1. Open the page **FUNCTIONS > Music on hold/announcement > File and volume**.
2. In the **File** list field, select the **Announcement** option.
3. Slide the **Volume** slider under **Settings** or enter a value in the entry field next to the slider. The following entries are possible:

   0 to **100**: The playback volume of music on hold announcement increases or decreases, depending on the value entered.

Further steps:

– *Save your settings before you leave the page.*

Delete the Announcement for Music on Hold (Restore Default Announcement) via an Internal Telephone

If the recorded music on hold announcement is deleted, the default announcement is automatically enabled.

Requirements:
– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
– *A configured sub-admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin PIN.
4. Dial ***5531#**.

Listening to and Switching the Announcement for Music on Hold On/Off

Switching this on/off can be done as follows:

- Via the configuration manager
- Using a character string on the internal telephone

Listening can be carried out as follows:

- Using a character string on the internal telephone

Switching the Announcement for Music on Hold On/Off via the Configuration Manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Music on hold/announcement > Settings**.
2. Select or clear the **Mix into music on hold** check box under **Announcement**.
   ☑ Enables the announcement for music on hold.
   ☐ Disables the announcement for music on hold.

Further steps:
– *Save your settings before you leave the page.*

Listening to and Switching the Announcement for Music on Hold On/Off via an Internal Telephone

Requirements:

– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*

– *Knowledge of the sub-admin or admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin or admin PIN.
4. Dial one of the following character strings:

   ***5731#**: Enables only the announcement.

   ***5732#**: Enables only the music on hold.

   ***5733#**: Enables the music on hold and the announcement.

   The music on hold and/or the announcement is played back.

Note: Depending on the length of the announcement, it may take some time for it to load. During this time, you will hear two short tones, around every five seconds.

Configuring a Pause between Announcements

The pause between announcements indicates how many seconds should occur each time the music on hold announcement is played back.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Enabled music on hold announcement*

1. Open the page **FUNCTIONS > Music on hold/announcement > Settings**.

2. Enter a value in the **Pause between announcements** entry field. The following entries are possible:

   0 to **60**: The music on hold is repeated at time intervals of 0 to 60 seconds.

Further steps:
– *Save your settings before you leave the page.*

Switching Music on Hold in the Call Phase On/Off

If music on hold is enabled in the call phase, the caller who is forwarded via transfer without announcement hears music on hold instead of the call tone in the call phase.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Music on hold/announcement > Settings**.
2. Select or clear the **Transfer without announcement in the call phase** check box under **Music on hold**.
   - ☑ Enables music on hold in the call phase.
   - ☐ Disables music on hold in the call phase.

Further steps:
– *Save your settings before you leave the page.*

Network Memory

A USB hard disk or a USB memory stick can be connected to a USB host. This storage medium can then be accessed from the LAN.

Configuring the Network Memory

Important:

The storage medium used requires FAT16 or FAT32 formatting with long file name support.

The storage medium must be previously formatted, since formatting is not possible on the PBX.

The configuration can be carried out as follows:

- Via the configuration manager

Requirements:

– *A storage medium connected to the USB host*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **SERVICE > Memory > Network memory**.
2. Select or clear the **Usage** check box.
   - ☑ Enables the network memory.
   - ☐ Disables the network memory.

   Note: When enabling the network memory, a check is made as to whether the memory has access to the "netstore" directory. If this directory is not present, it is automatically created on the first partition.
3. Enter the password you want in the **Password** entry field under **Access data**. The following entries are possible:

   Up to 16 digits

   Digits and characters

Further steps:

– *Save your settings before you leave the page.*

Accessing the Network Memory via FTP

Computers on the LAN can access the data on the USB storage medium via any FTP client, an FTP-capable Internet browser or Explorer on the Windows operating system. All users have the same permissions for reading and writing the data accessed.

A maximum of five simultaneous connections are possible.

Caution: Removing the storage medium from the PBX during operation may lead to data loss. To remove the storage medium safely, you have the following possibilities:

- Prepare to remove the storage medium properly (**Eject** under **SERVICE > Memory > Storage medium**).
- Switch off the PBX before removing the storage medium.

Important: It is normally not possible to write to a file while accessing it from an Internet browser.

Access can be carried out as follows:

- Via an FTP client (see the manual for the FTP client)
- Via an FTP-capable Internet browser
- Via Explorer on the Windows operating system

Requirements:

– *PC and PBX on the same network*

– *Knowledge of the IP address on the PBX*

1. Start an FTP-capable Internet browser (e.g., Mozilla Firefox or Microsoft Internet Explorer) or Explorer on the Windows operating system.

2. In the address field of the browser/Explorer, enter **ftp://netstorage@** and the IP address or URL on the PBX, e.g., ftp://netstorage@192.168.178.4.

3. Enter the password for the network memory saved in the PBX.

   The "netstore" directory and its sub-directories on the USB storage medium are displayed.

Network Printer

A USB printer with the device class "printer" can be connected to the USB host on the COMpact 3000. Print jobs from computers on the same network are sent to the IP address of the COMpact 3000. This is how the PBX takes on the function of a printer server.

Adding a Printer

On every computer that should use the network printer, the printer must be installed with a suitable printer driver.

> **Note:**
>
> Multi-function machines (e.g., fax-scanner-printer combinations), printers with a Graphic Device Interface (GDI) and most status monitors cannot be used.
>
> No call data printouts and direct charge printouts can be made with printers connected in this way.
>
> Only one printer is supported in the PBX at a time.

The following operating systems/operating system settings are supported:

- Windows XP/Vista/7 (Local, Standard TCP/IP port; Raw; 9100)
- Linux (HP JetDirect; IP address and port 9100)
- Mac (HP Jet Direct - socket, address: <ipaddr>:<port>)

> **Note:** The following steps describe how to add a printer on the operating systems, Windows XP, SUSE Linux or Mac OS X. If using another operating system or one with significant differences to the basic settings, refer to the documentation of your operating system.

Adding can be carried out as follows:

- A computer ready for operation and on the same network as the COMpact 3000

Adding a Printer under Windows XP

Requirements:

– *A USB printer with the device class "printer" connected to the USB host and enabled*

– *A "printer installation wizard" that has been started*

Note: If the "printer installation wizard" does not start automatically, click **Start** and then **Control Panel**. Double-click **Printers and Faxes**. Click **Add a printer** under **Printer Tasks**.

---

1. Follow the prompts given by the printer installation wizard; while doing this, configure the following settings:

   - Under **Local or Network Printer**:

     Select the **Local printer attached to this computer** option.

     Deactivate **Automatically detect and install my Plug and Play printer**.

   - Under **Select a Printer Port**:

     Select the **Create a new port** option.

     In the **Type of port** list field, select the **Standard TCP/IP Port** option.

2. Follow the wizard prompts for adding a standard TCP/IP printer port; while doing so, configure the following settings:

   - Under **Add Port**:

     Enter the IP address or URL of the COMpact 3000 in the **Printer Name or IP Address** entry field.

     Enter any port name in the **Port Name** entry field.

   - Under **Additional Port Information Required**:

     Select the **Custom** option under **Device Type**.

     Click **Settings...**.

   - Under **Configure Standard TCP/IP Port Monitor**:

     Select the **Raw** option under **Protocol**.

     In the **Port Number** entry field under **Raw Settings**, enter the digit sequence **9100**.

3. Continue following the prompts given by the printer installation wizard; while doing this, configure the following settings:

   - Under **Install Printer Software**:

     From the **Manufacturer** list, select the manufacturer, and in the **Printer** list, select the product name of the printer. If necessary, click **Windows Update** to update the list

or

Click **Have Disk…** to install the printer software from an installation medium (e.g., CD).

- Under **Name Your Printer**:

  Enter a name for the printer in the **Printer name** entry field.

  If you would like to set the printer as the default printer, select the **Yes** option.

- Under **Printer Sharing**:

  If necessary, select the **Share name** option and enter a name in the entry field.

Adding a Printer under SUSE Linux

Requirements:

– *A USB printer with the device class "printer" connected to the USB host and enabled*
– *Printer recognition by the USB host on the COMpact 3000*
– *Printer support through the printing software CUPS (Common UNIX Printing System)*

1. Log in as "Superuser" on the computer.
2. Enter the following command into the console:

   lpadmin -p <printer name> -E -v socket://<IP address of the PBX>:<Port> -m <printerdescriptionfile.ppd>: e.g., lpadmin -p DesignJet 5000PS -E -v socket://192.168.0.240:9100 –m hp5000c1.ppd for an HP DesignJet 5000PS with the printer description file hp5000c1.ppd

Adding a Printer under Mac OS X

Requirements:

– *A USB printer with the device class "printer" connected to the USB host and enabled*
– *The printer driver included in the printer service program (compatible printer drivers are also possible)*

1. Open the printer service program. First click **Go** and then **Utilities**. Double-click **Printer Setup Utility**, and then click the plus symbol at the bottom left.
2. Click **IP Printer**.
3. In the **Protocol** list field, select the **HP Jet Direct - Socket** option.
4. Enter the IP address of the PBX in the **Address** entry field.

Note: The **Queue** entry field must remain empty.

5. If necessary, enter the desired names in the **Name** and **Location** entry fields.
6. Select the printer driver in the **Print using** list field.

Note: If the corresponding printer driver is not shown in the **Print using** list field, a compatible printer driver can be selected.

7. Click **Add**.

Number Presentation

Number presentation enables the selection of the telephone number that is transmitted to the person being called during an outgoing call (outgoing). At the same time, the telephone number is selected that is transmitted back to the caller and displayed as the telephone number actually reached during the call (incoming).

If no telephone number should be transmitted, number presentation can also be suppressed.

Configuring Number Presentation

If the default number presentation is enabled, the telephone number is transmitted over which the subscriber on the connection in question is called. If the subscriber is not a member of the call distribution on the connection, the first telephone number entered is transmitted.

If the default number presentation is disabled, the telephone number selected for the subscriber on the connection is transmitted.

Note:

In case of several connections, the telephone number to be transmitted is selected together with the connection which is to be used preferably for outgoing external calls (preferred exchange line).

When the preferred exchange line is busy, the subscriber cannot initiate an external call. In this case, it is possible to select an additional connection (overflow). Via this connection the call is initiated and the selected fallback telephone number is transmitted.

If number presentation suppression is enabled, the number presentation is always suppressed for the caller (anonymous call). The number presentation required for billing purposes from the local connection to the network provider is not suppressed in this case.

Note: For a connection on which a GSM gateway has been configured, the valid number presentation is configured directly in the corresponding GSM gateway. Therefore, the settings in the PBX for number presentation/number presentation suppression are not taken into account.

The configuration can be made as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Configured external telephone numbers*

– *For preferred exchange line and fallback telephone number: more than one external connection*

1. Open the page **CONFIGURATION > Number presentation**.
2. Select or clear each the **Standard** check box.
   - ☑ Enables the default number presentation. (No other action is required.)
   - ☐ Disables the default number presentation.
3. Select the telephone number to be transmitted or the preferred exchange line in the corresponding **Phone number/Preferred exchange line** list fields.
4. Select the telephone number to be transmitted in case that the connection is busy or the overflow for the preferred exchange line in the corresponding **Fallback/Overflow** list fields.
5. Select or clear each the **Number presentation suppression** check box.
   - ☑ Enables number presentation suppression.
   - ☐ Disables number presentation suppression.

Note: If the number presentation should be suppressed only on a call-by-call basis, the **Number presentation suppression** check box must be cleared. In this case, the number presentation to the caller is suppressed by a telephone before a call is initiated.

Further steps:

– *Save your settings before you leave the page.*

Online Name Search

The online name search lets you accept names to put with existing telephone numbers via a service provider on the Internet.

More Information on the Online Name Search

There are different ways of using the online name search:

Incoming calls

If a telephone number is transmitted during an incoming call, the entries in the telephone books (PBX, system telephone) are checked and, if necessary, an associated name is displayed and saved in the call data list.

If the telephone number transmitted is not found in the telephone books, the function attempts an online name search of the name for the telephone number on a remote Web server that offers a search service. If the server is accessible and the desired data is stored there, this information is transferred to the telephone. The name is shown on the display of a system telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB and saved in the call data list.

Call data list

Clicking in the **External name** column (**Ext. subscriber**) of the call data list adds the name to the call data set after the fact using the online name search function. The name can also be verified and updated.

Switching Online Name Search On/Off

If online name search is enabled, the PBX attempts to obtain the missing name from the service provider.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *A configured DNS server and, if necessary, an HTTP proxy server*

1. Open the page **FUNCTIONS > Online name search**.
2. Select or clear the **Online name search** check box.
   - ☑ Enables online name search.
   - ☐ Disables online name search.

Further steps:
– *Save your settings before you leave the page.*

Configuring an Exact or Approximate Search

The search for the missing name can be carried out in various ways:

- **exact**: Search for the complete telephone number
- **approximate**: Search without the last four digits in the telephone number (advanced search)

> **Note:** Not all of the telephone numbers are saved on the server on the Internet (e.g., extension codes for a point-to-point connection). The corresponding telephone numbers (PBX base numbers) can be found through an advanced search.

The configuration can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Enabled online name search*

1. Open the page **FUNCTIONS > Online name search**.
2. Select one of the following options:

   exact: Executes the online name search using the complete telephone number.

   approximate: Executes the advanced online name search using a shortened telephone number.

Further steps:
– *Save your settings before you leave the page.*

Initiating a Service Provider Update

Initiation can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*
– *The PBX connected to broadband Internet access*
– *Configured IP addresses for Gateway and DNS server*

1. Open the page **FUNCTIONS > Online name search**.
2. Click **Start update** under **Update service provider**.

   The update is carried out.

Pickup

Using Pickup, you can take a call on your own phone that was originally sent to another internal telephone.

If the call has already been taken, the call can be taken using same procedure if the call take-over has been allowed by the subscriber being called. This function is useful, for example, in the case of answering machines.

Executing Pickup

Performing this procedure can be carried out as follows:

- Using a character string on the internal telephone
- On the system telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB using the function key (see the telephone manual)

Requirements:

– *Authorization **Pickup** assigned to the subscriber*

– *To pick up an external call: **Exchange line authorization** assigned to the subscriber for incoming calls (**International**, **National**, **City** or **only incoming, with emergency call**)*

If an internal telephone rings in your proximity, proceed as described in the following.

1. Pick up the receiver of your telephone.
2. Dial **##06**.
3. Enter the internal telephone number of the telephone that is ringing. The following entries are possible:

   **** and internal telephone number of the individual telephone** (If you do not use a direct exchange line access, omit the **.)

   **** and internal telephone number of the line group** (If you do not use a direct exchange line access, omit the **.)

   You are connected with the caller.

Picking up during a Call

Requirements:

– *Authorization **Pickup** assigned to the subscriber*

– *To pick up an external call: **Exchange line authorization** assigned to the subscriber for incoming calls (**International**, **National**, **City** or **only incoming, with emergency call**)*

If an internal telephone rings in your proximity during a call, proceed as described in the following.

1. Press the **Flash key** (when using a telephone with DTMF dialling) or the **Query key** (when using an ISDN telephone).
2. Dial **##06**.
3. Enter the internal phone number of the telephone that is ringing. The following entries are possible:

   **** and internal telephone number of the individual telephone** (If you do not use a direct exchange line access, omit the **.)

   **** and internal telephone number of the line group** (If you do not use a direct exchange line access, omit the **.)

   You are connected with the caller.

Switching Authorization for Pickup On/Off

If authorization for pickup is enabled, the subscriber in question can take calls made to other subscribers.

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Authorizations**.

2. In the list field at the top, select the subscriber in question by his name or number.
3. In the **Pickup** list field, select one of the following options:
   - ☑ Enables authorization for pickup.
   - ☐ Disables authorization for pickup.

Further steps:
– *Save your settings before you leave the page.*

Switching Call Pickup On/Off

Call pickup is appropriate for answering machines, fax machines and modems. For example, if an answering machine is faster than the subscriber and picks up the call, the subscriber can take the call from the answering machine if call pickup has been enabled for this. The answering machine receives then the busy tone.

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Authorizations**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. In the **Call Pickup** list field, select one of the following options:
   - ☑ Enables call pickup.
   - ☐ Disables call pickup.

Further steps:
– *Save your settings before you leave the page.*

Carrying out a Call Pickup

Performing this procedure can be carried out as follows:

- Using a character string on the internal telephone

Requirements:

– ***Call pickup*** *enabled for the subscriber*

– *To carry out call pickup of an external call:* ***Exchange line authorization*** *assigned to the subscriber for incoming calls (****International****,* ***National****,* ***City*** *or* ***only incoming, with emergency call****)*

If the answering machine has already taken the call, proceed as described in the following.

1. Pick up the receiver of your telephone.
2. Dial **##06**.
3. Enter the internal telephone number of the answering machine that is conducting the call to be picked up. The following entries are possible:

   **** and internal telephone number of the individual answering machine** (If you do not use a direct exchange line access, omit the **.)

   **** and internal telephone number of the line group** (If you do not use a direct exchange line access, omit the **.)

   You are connected with the caller.

Private (Personalized) Exchange Line Access

Private (personalized) exchange line access enables separate billing for business and personal calls for individual employees. Using private exchange line access, calls initiated are given a special identification while the call data is being recorded. This allows the charges to be billed to the employee.

Various Configurable Functions for Personal and Business Calls

- Exchange line authorization
- Call restrictor (outgoing)
- Call deblocker (outgoing)
- Short-code authorization

Initiating Private Exchange Line Access

The subscriber that would like to make personal calls can initiate private exchange line access on any internal telephone by entering the user PIN. Personal calls are assigned to the subscriber in question in the call data set based on the user PIN.

Requirements:

– *User PIN configured for the subscriber*

1. Pick up the receiver of any internal telephone.
2. Dial **##92**.
3. Enter the user PIN.
4. Dial *****.
5. Enter the external telephone number. The following entries are possible:

   External phone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)

   **** and short code number** (If you do not use a direct exchange line access, omit the **.)

   You are making a personal call.

Initiating Private Exchange Line Access without a PIN

Authorization granted specifically to the subscriber allows private exchange line access without requiring a user PIN to be initiated on the subscriber's own telephone. The charges are billed to the telephone used.

Requirements:

– *Authorization **Private exchange line access without PIN** assigned to the subscriber*

1. Pick up the receiver.
2. Dial **##91**.
3. Enter the external telephone number. The following entries are possible:

   External phone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)

   **** and short code number** (If you do not use a direct exchange line access, omit the **.)

   You are making a personal call.

Switching Authorization for Private Exchange Line Access without PIN Entry On/Off

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Authorizations**.
2. In the list field at the top, select the subscriber in question by his name or number.

3. Select or clear the **Private exchange line access without PIN** check box.

   ☑ Enables the authorization for private exchange line access without PIN entry.

   ☐ Disables the authorization for private exchange line access without PIN entry.

Note: When authorization is granted for initiating personal calls without a PIN, there is no protection against misuse by other internal users.

Further steps:

– Save your settings before you leave the page.

Room Monitoring

The room monitoring function can be used for monitoring a room acoustically, for instance, for monitoring a small child while she sleeps. The internal telephone in this room must be suitably configured for this purpose.

The configured telephone can then be called by another internal telephone or by a password-protected external telephone. The connection is established immediately and it is possible to listen into the room.

Switching Room Monitoring On

Switching on can be carried out as follows:

- Using a character string on the internal telephone
- On the system telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB using the menu/function key (see the telephone manual)

1. Pick up the receiver of the internal telephone that is located in the room to be monitored.
2. Dial **##8*61#**.
3. Lay the receiver next to the telephone.

Note:

No calls can be made from the configured telephone and no normal calls can be taken on the telephone.

At the same time, room monitoring can only be enabled on one internal telephone on the PBX.

Carrying out Room Monitoring

Performing this procedure can be carried out as follows:

- On an internal telephone
- On an external telephone

Monitoring a Room via an Internal Telephone

Requirements:

– *Room monitoring enabled*

1. Pick up the receiver of the internal telephone with which you would like to carry out room monitoring.
2. Enter the telephone number of the telephone configured for room monitoring. The following entries are possible:

   **** and internal telephone number of the individual telephone** (If you do not use a direct exchange line access, omit the **.)

   The connection is immediately established. You can hear into the room.

Monitoring a Room via an External Telephone

Requirements:

– *More than one external phone number (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*

– *Room monitoring enabled*

– *A configured remote switching number and external PIN*

– *Analog DTMF telephone, ISDN telephone with DTMF signaling or DTMF generator*

1. Pick up the receiver of the external telephone with which you would like to carry out room monitoring.
2. Enter the remote switching number.

   You will hear the external confirmation tone (1 second).
3. Dial **##8**.
4. Enter the external PIN.
5. Dial ***60#**.

   You will hear the external confirmation tone (1 second).

   Note: If you wait too long before entering the characters or enter an invalid character string, you will hear the busy tone. In this case, hang up the receiver and start over.

   The connection is established. You can hear into the room.

Switching Room Monitoring Off

- Hang up the receiver of the corresponding telephone.

Configuring the External PIN

The external PIN is required for the following:

- Perform a configuration switchover manually via an external telephone
- Monitor a room via an external telephone
- A dial-up connection for initiating remote configuration on the PBX if the user name "external" is used

The configuration can be made as follows:

- Via the configuration manager
- Using a character string on the internal telephone

Configuring an External PIN via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **SERVICE > Remote configuration**.
2. Enter the external PIN in the **External PIN** entry field under **Remote configuration (PPP) and remote programming**. The following entries are possible:

   Exactly 6 digits

   Digits

   Note:

   The PIN may not begin with a zero.

   All of the PINs in the PBX are unique. This means that it is not possible to allocate the same PIN twice.

Do not use dates of birth or dates as PINs. This makes it easy for an attacker to find out the correct PIN. PINs which are easy to guess, such as 111111 or 123456, should also be avoided.

Further steps:

– *Save your settings before you leave the page.*

Changing a PIN Using an Internal Telephone

Requirements:

– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
– *Configured external PIN*
– *Knowledge of the external PIN*

1. Pick up the receiver.
2. Dial ***99***.
3. Enter the existing external PIN.
4. Dial ***.
5. Enter the new external PIN. The following entries are possible:

   Exactly 6 digits

   Digits

   Note:

   The PIN may not begin with a zero.

   All of the PINs in the PBX are unique. This means that it is not possible to allocate the same PIN twice.

   Do not use dates of birth or dates as PINs. This makes it easy for an attacker to find out the correct PIN. PINs which are easy to guess, such as 111111 or 123456, should also be avoided.

6. Dial ***.
7. Reenter the new external PIN.
8. Dial **#**.

Note: If, at this point, you hear a busy tone instead of a confirmation tone, the new PIN may already be in use in the PBX and no change takes place. Re-attempt with another digit sequence.

Configuring the Remote Switching Number

The remote switching number is one of the telephone numbers available on one's own connection and is used to carry out the following tasks via the PBX:

- Perform a configuration switchover manually via an external telephone
- Monitor a room via an external telephone

In addition, the remote switching number is used as a dial-up phone number for a dial-up connection. This is used to configure the PBX remotely via an external ISDN connection.

Note: If no remote switching number has been configured, the PBX must be activated for remote configuration using a digit sequence on an internal telephone. After this, the PBX is accessible over each associated MSN/DDI.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

– *Configured external telephone numbers*

1. Open the page **SERVICE > Remote configuration**.
2. Select the telephone number you want from the **Remote switching number** list field under **Remote configuration (PPP) and remote programming**.

Note: This telephone number may not be rerouted using call forwarding.

Further steps:

– *Save your settings before you leave the page.*

Short-code Authorization

If exchange line authorization is restricted and you want to increase your dialling options by adding specific telephone numbers, short-code dialling number authority can be added to the exchange line authorizations.

This allows special telephone numbers to be made available for dialling. When short-code dialling number authority is used, all short-code numbers can be dialled, independent of the exchange line authorization.

Switching Short-code Dialling Number Authority On/Off

Switching this on/off can be done as follows:

- Separately for subscribers
- Separately for business and personal calls
- For the exchange line transfer function (**FUNCTIONS > Transfer > Exchange line transfer**)
- For the Call Through function (**FUNCTIONS > Call Through > Exchange line settings**)
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Exchange line settings**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear each the **business** and **private** check boxes under **Short-code dialling number authority**.
   - ☑ Enables the short-code dialling number authority.
   - ☐ Enables the short-code dialling number authority.

Further steps:

– *Save your settings before you leave the page.*

– *Configure the desired short-code numbers.*

Soft Call

With the soft call function, a user can use the Web interface of the PBX to dial an external telephone number from the telephone book, the call data list, an RSS feed or by entering his own telephone number. To do this, the user must log into the Web interface with his user PIN.

Dialling External Telephone Numbers via the Portal Page

When the user is logged in on the Web interface of the configuration manager, the soft call function can be used via the portal page thereby allowing an external phone number to be dialled directly.

Dialling can be carried out as follows:

- Via the configuration manager

Requirements:

– ***Soft call*** *element configured on the portal page for the subscriber*
– ***Short-code authorization*** *for business calls assigned to the subscriber*
– *An open configuration manager with an authorization level of user*

1. Open the portal page (click the PBX name).
2. Enter the desired telephone numbers in the entry field under **Soft call**.
3. Click next to the telephone number.

   The telephone number of the external subscriber is dialled.

Targeted Exchange Line Access

Using targeted exchange line access, you can define which of your own external phone number is transmitted for an external call.

Initiating Targeted Exchange Line Access

Initiation can be carried out as follows:

- Using a character string on the internal telephone
- On the system telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB using the function key (see the telephone manual)

1. Pick up the receiver.
2. Dial **##96**.
3. Enter the separate external telephone number to be transmitted. The following entries are possible:

   External phone numbers (independent of the configuration of the direct exchange access)
4. Dial *****.
5. Enter an external telephone number. The following entries are possible:

   External phone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)

   **** and short code number** (If you do not use a direct exchange line access, omit the **.)

   The subscriber is called.

Targeted VoIP Access Point

An external call can be initiated via a specific VoIP account using a targeted VoIP access point.

The Internet service provider's network can only be accessed via a targeted VoIP access point, e.g., when querying the mailbox.)

Initiating Targeted VoIP Access

Initiation can be carried out as follows:

- Using a character string on the internal telephone
- On the system telephone COMfortel 1100/1500/2500/2500 AB/VoIP 2500 AB using the function key (see the telephone manual)

> **Note:** Currently, emergency calls cannot yet be completely guaranteed over VoIP by all providers. This affects not only the connection to the public safety answering point but also the systems that provide the geographic location of the caller during an emergency call.

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*

1. Pick up the receiver.
2. Enter the account number. The following entries are possible:

   **** and the internal telephone number of the VoIP account** (If you do not use direct exchange line access, omit the **.)
3. Enter an external telephone number. The following entries are possible:

   External telephone number (If you do not use direct exchange line access, dial the exchange line access number before dialling the telephone number.)

> **Note:** In any case, the external phone number must be dialled with the corresponding local area code, even if it is your own local area code. The special numbers provided by the VoIP provider for checking one's account status or dialling usually do not include a local area code.

The subscriber is called.

Note: No callback is possible (CCBS or CCNR) for outgoing calls over VoIP.

Telephone Number Display (CLIP)

The telephone number display (CLIP) enables the telephone number of the caller to be shown on the display of a system telephone, an ISDN telephone or on a CLIP-capable analog telephone. The prerequisite is that the caller transmits a telephone number.

A few CLIP-capable analog telephones support the recording of the date and time in conjunction with the caller list. On some, it is also possible to display the name instead of the telephone number.

Switching CLIP Information On/Off

If CLIP information is enabled, the telephone number information (if transmitted) is displayed on the display of CLIP-capable analog telephones.

> **Note:** A caller's telephone number (if transmitted) is automatically displayed on ISDN telephones.

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

– *Analog subscriber*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Analog settings**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **CLIP info** check box under **Telephone number display (CLIP)**.
   - ☑ Enables CLIP information.
   - ☐ Disables CLIP information.

Further steps:

– *Save your settings before you leave the page.*

Switching Extended CLIP Information On/Off

If extended CLIP information is enabled, the date and time on CLIP-capable analog telephones is recorded in conjunction with their caller list. The PBX can make this information available so that the date and time of previous calls are displayed in the caller list when scrolling. Some analog telephones can also display CLIP information alpha-numerically. In this case, the PBX compares the transmitted telephone number with the short-code numbers saved in the PBX. If an identical telephone number is found, the name saved in the PBX is also displayed in addition to the telephone number information.

Note: For some end devices, extended CLIP information can cause problems and should therefore be disabled.

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Analog subscriber*
– ***Telephone number display (CLIP)**: **CLIP info** enabled for the subscriber*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Analog settings**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **Extended CLIP info** check box under **Telephone number display (CLIP)**.
   - ☑ Enables extended CLIP information.
   - ☐ Disables extended CLIP information.

Further steps:

– *Save your settings before you leave the page.*

Switching CLIP Restriction Time On/Off

A CLIP restriction time of ten seconds is automatically inserted between one call (caller hangs up or call connection is established) and the next call. This allows the transmitted telephone number to be displayed correctly.

> **Note:** If the CLIP restriction time is disabled, it can happen that incorrect telephone number information is displayed.

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Analog subscriber*
– ***Telephone number display (CLIP)**: **CLIP info** enabled for the subscriber*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Analog settings**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **CLIP restriction time** check box under **Telephone number display (CLIP)**.
   - ☑ Enables the CLIP restriction time.
   - ☐ Disables the CLIP restriction time.

Further steps:

– *Save your settings before you leave the page.*

Time and Call Allowance Account

Each telephone can be credited a certain amount of time using a time account. When the time credit is used up, it becomes no longer possible to make external calls on the corresponding telephone until the credit is reset.

A call allowance account is a restricted amount of currency units that is configured for each telephone. When these units are used up, it becomes no longer possible to make external calls on the corresponding telephone until the credit is reset.

Configuring an Account Type

The configuration can be made as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Time and call allowance accounts > Accounts**.
2. Click in the line of the corresponding subscriber.
3. In the **Account type** list field, select one of the following options:

   Time account: Configures a time account for the subscriber.

   Call allowance account: Configures a call allowance account for the subscriber.

Important: If using a VoIP account for external calls, the call allowance account doesn't work.

Further steps:

– *Save your settings before you leave the page.*

– *Configure credit for the time or call allowance account.*

Configuring Credit for a Time Account

The credit for a time account shows how long a subscriber can make calls externally at most. If the subscriber has no more time available, it is no longer possible to make external calls on the corresponding telephone until the time credit has been increased or reset.

If the subscriber is currently on a call and there is only two minutes of credit left the time account, the subscriber hears a short attention tone repeatedly.

> **Note:** An overview of the credits for time and call allowance accounts can be configured as an element on the portal page (**Account balance**).

The configuration can be made as follows:

- Separately for subscribers
- Via the configuration manager
- Using a character string on the internal telephone

Configuring Credit for a Time Account via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open one of the following pages:
   - COMpact 3000 analog/VoIP: **FUNCTIONS > Time accounts > Accounts**
   - COMpact 3000 ISDN: **FUNCTIONS > Time and call allowance accounts > Accounts**
2. Click in the line of the corresponding subscriber.
3. Select one of the following options in the **Type** list field under **Add to credit**.

   Unlimited allowance: Disables the time limit of the time account. (No other action is required.)

   Manual: Replaces the remaining time one time with the time entered in the **Remaining time** entry field.

   ... by: Regularly increases the remaining time by the time entered in the **Credited time** entry field.

   ... to: Regularly replaces the remaining time with the time entered in the **Credited time** entry field.

4. Only available when **Manual** has been selected: Enter the remaining time in minutes and seconds in the **Remaining time** entry field under **Add to credit**. The following entries are possible:

   Digits (minutes) **:** Digits (seconds)

5. Only available when **... by** or **... to** has been selected: Enter the credited time in minutes in the **Credited time** entry field under **Add to credit**. The following entries are possible:

   0 to **999**

   Note: The add credit procedure starts at 0:00 a.m. at the first available point of time (e.g., Monday, 0:00 a.m. for adding to the credit weekly) of the add credit rhythm selected.

   ---

6. Click **Credit now**.

Further steps:
– *Save your settings before you leave the page.*

Configuring Credit for a Time Account via an Internal Telephone

Requirements:
– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
– *Knowledge of the sub-admin or admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin or admin PIN.
4. Dial ***74**.
5. Enter the internal telephone number. The following entries are possible:

   ****** and internal telephone number of the individual telephone** (If you do not use a direct exchange line access, omit the **.)

6. Dial ***.

7. Enter the number of minutes. The following entries are possible:

   0 to **998**: Sets the time account from 0 to 998 minutes.

   999: Sets the time account to unlimited.

8. Dial **#**.

Configuring Maximum Credit for Time Accounts

The maximum credit for time accounts shows how many minutes the credit in a time account, e.g., after adding credit, may show at most.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open one of the following pages:
   - COMpact 3000 analog/VoIP: **FUNCTIONS > Time accounts > Settings**
   - COMpact 3000 ISDN: **FUNCTIONS > Time and call allowance accounts > Settings**
2. Enter a value in the **Maximum credit for a time account** entry field under **credit**. The following entries are possible:

   1 to **9999**: Specifies the maximum credit for time accounts from 1 to 9999 minutes.

Further steps:

– *Save your settings before you leave the page.*

Configuring Credit for a Call Allowance Account

In order to carry out charge verification, credit can be added to the individual call allowance accounts. As soon as the configured credit is used up, it is no longer possible to make external calls on the corresponding telephone until the credit has been increased or reset.

If the remaining amount is used up during a call, the subscriber hears a short attention tone repeatedly. Afterwards, the call is disconnected.

Note: An overview of the credits for time and call allowance accounts can be configured as an element on the portal page (**Account balance**).

The configuration can be made as follows:

- Separately for subscribers
- Via the configuration manager
- Using a character string on the internal telephone

Note:

Some telephone service providers do not transmit charges. If this type of provider is used (by manual selection) for making calls, a configured call allowance account will not apply to the call in question. To avoid this, the provider telephone numbers in question should be entered as restricted numbers and this function should be activated for every telephone.

If the LCR procedure Soft-LCR 4.0 is used, the charges are calculated based on the length of the call and the tariff table set up separately. For this purpose, you need to specify a price per minute as well as the length of the metering pulse per switching time and provider.

Configuring Credit for a Call Allowance Account via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*

Important: If using a VoIP account for external calls, the call allowance account doesn't work.

– *The AOCD service attribute released by the network provider (charge transmission during the connection)*

– *An account type configured for the subscriber: A call allowance account*

1. Open the page **FUNCTIONS > Time and call allowance accounts > Accounts**.
2. Click in the line of the corresponding subscriber.

3. Select one of the following options in the **Type** list field under **Add to credit**.

   Unlimited allowance: Disables the charge verification option. (No other action is required.)

   Manual: Replaces the credit one time with the amount entered in the **Remaining credit**.

   ... by: This regularly increases the credit by the amount entered in the **Credited amount** input field.

   ... to: Regularly replaces the credit with the amount entered in the **Credited amount**.

4. Only available when **Manual** has been selected: Enter the desired amount in the **Remaining credit** entry field under **Add to credit**. The following entries are possible:

   Digits

5. Only available when **... by** or **... to** has been selected: Enter the desired amount in the **Credited amount** entry field under **Add to credit**. The following entries are possible:

   Digits

   Note: The add credit procedure starts at 0:00 a.m. at the first available point of time (e.g., Monday, 0:00 a.m. for adding to the credit weekly) of the add credit rhythm selected.

   ---

6. Click **Credit now**.

Further steps:
– *Save your settings before you leave the page.*

Configuring Credit for a Call Allowance Account via an Internal Telephone

Requirements:
– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*

  Important: If using a VoIP account for external calls, the call allowance account doesn't work.

– *The AOCD service attribute released by the network provider (charge transmission during the connection)*
– *An account type configured for the subscriber: A call allowance account*
– *Knowledge of the sub-admin or admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin or admin PIN.
4. Dial ***74**.
5. Enter the internal telephone number. The following entries are possible:

   ****** **and internal telephone number of the individual telephone** (If you do not use a direct exchange line access, omit the **.)
6. Dial *.
7. Enter the number of currency units (e.g., cents). The following entries are possible:

   0 to **99998**: Sets the call allowance account from 0 to 99998 currency units.

   99999: Sets the call allowance account to unlimited.
8. Dial **#**.

Configuring Maximum Credit for Call Allowance Accounts

The maximum credit for call allowance accounts displays the highest amount that a call allowance account may not exceed.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*

> **Important:** If using a VoIP account for external calls, the call allowance account doesn't work.

– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Time and call allowance accounts > Settings**.

2. Enter a value in the **Maximum credit for a call allowance account** entry field under **Credit**. The following entries are possible:

   0 to **500**: Specifies the maximum credit for charge accounts from 0 to 500 euros.

Further steps:
– *Save your settings before you leave the page.*

Configuring the Type of Call Used for Account Debiting

The configuration can be made as follows:

- Separately for business and personal calls
- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*

1. Open one of the following pages:
   - COMpact 3000 analog/VoIP: **FUNCTIONS > Time accounts > Settings**
   - COMpact 3000 ISDN: **FUNCTIONS > Time and call allowance accounts > Settings**
2. Select or clear the **Charges for business calls** and **Charges for personal calls** check boxes accordingly under **Account debit**.
   ☑ Enables account debiting for the type of call in question.
   ☐ Disables account debiting for the type of call in question.

Further steps:
– *Save your settings before you leave the page.*

Switching Recording Changes for Account Debit during Transfers On/Off

If the recording change for account debit during a transfer is enabled, after transferring a call to another internal end device, the account of the other subscriber is recorded as the one to make the charge to.

> **Note:** Changing the recording for the account debit during a transfer is also taken into consideration in the call data list.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *For call allowance accounts: The AOCD service attribute released by the network provider (charge transmission during the connection)*

1. Open one of the following pages:
   - COMpact 3000 analog/VoIP: **FUNCTIONS > Time accounts > Settings**
   - COMpact 3000 ISDN: **FUNCTIONS > Time and call allowance accounts > Settings**
2. Select or clear the **Charges/recording switches according to subscriber** check box under **Account debit**.
   - ☑ Enables the switch of the charge recording during a transfer.
   - ☐ Disables the switch of the charge recording during a transfer.

Further steps:

– *Save your settings before you leave the page.*

VoIP/GSM Routing

VoIP/GSM routing is a PBX function that enables the subscriber to automatically make calls using the most cost-effective connection. Before thinking about Least Cost Routing via various public switched network providers, a decision needs to be made whether one of the VoIP accounts or perhaps an existing public switched network or an existing GSM gateway should be used for the upcoming call. A table with exception telephone numbers must be set up for this and saved in the PBX.

VoIP/GSM Routing Sequence

VoIP/GSM routing proceeds as follows:

- A user dials an external phone number.
- The PBX checks whether the telephone number or telephone number range is entered in the exception telephone number list and enabled for the current configuration.
- If the telephone number is found, the PBX automatically initiates the dial attempt via the connection first selected.
- If the selected connection is busy when dialled, the next connection selected is attempted (up to three are possible).
- After an attempt with the third connection, if no connection is established, the busy tone issued.

> **Note:** If a call is initiated over a targeted VoIP access point, VoIP/GSM routing is not carried out.

Entering Exception Telephone Numbers

The exception telephone numbers determine which connection should be used for attempting to dial a telephone number.

Up to 400 exception telephone numbers can be entered.

The entry can be made as follows:

- Separately for configurations
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > VoIP/GSM routing**.
2. Enter the telephone number/range in the **Telephone number / range** entry field. The following entries are possible:

   Up to 20 digits

   Digits
3. Enter the name of the corresponding telephone number in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters
4. In the **Dial attempt** list field, select one of the following options:

   generate busy: The dial attempt is ended and a busy tone is issued.

   all VoIP connections: The dial attempt is made over one of the configured VoIP accounts.

   VoIP connection account name: The dial attempt is made over the VoIP account named.

   ISDN connection: The dial attempt is made over the ISDN connection (only for the COMpact 3000 ISDN).

   ISDN connection ISDN module: The dial attempt is made over the ISDN connection (only on the COMpact ISDN module available as an option).

   Analog connection: The dial attempt is made over the analog connection (only for the COMpact 3000 analog).
5. Click .
6. Click .
7. In the **2nd dial attempt** and **3rd dial attempt** list fields, select one of the following options:

   generate busy: The dial attempt is ended and a busy tone is issued.

   all VoIP connections: The dial attempt is made over one of the configured VoIP accounts.

   VoIP connection account name: The dial attempt is made over the VoIP account named.

ISDN connection: The dial attempt is made over the ISDN connection (only for the COMpact 3000 ISDN).

ISDN connection ISDN module: The dial attempt is made over the ISDN connection (only on the COMpact ISDN module available as an option).

Analog connection: The dial attempt is made over the analog connection (only for the COMpact 3000 analog).

8. Under **Configurations**, select or clear the check box for the configurations listed on the page.
   - ☑ Enables the exception telephone number for the configuration in question.
   - ☐ Disables the exception telephone number for the configuration in question.
9. Repeat step 2 to 8 to enter additional exception telephone numbers.

Further steps:
– *Save your settings before you leave the page.*

Switching Routing for CF via Exception Telephone Numbers On/Off

If routing for CF via exception telephone numbers is enabled, a check is made as to whether the destination number has been entered as an exception telephone number. If this is the case, the call is forwarded over the configured path. If the destination number has not been entered in the routing table, the PBX uses the available call channel that belongs to the port.

Switching on/off of the routing is only possible for call forwarding for externel numbers.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog), external S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option) or external VoIP channel*
– *Configuration manager, opened with sufficient authorization*
– *Configured exception numbers (VoIP/GSM routing)*
– *Expert view (click E)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the connection in question.

A page opens for configuring the connection in question.

3. Open one of the following pages:
   - **Analogue connection > Name and functions**
   - **ISDN connection > Name and functions**
   - **VoIP connection > Name and settings**
4. Select or clear the **Routing for CF via exception telephone numbers** check box.
   - ☑ Enables routing for CF via exception telephone numbers.
   - ☐ Disables routing for CF via exception telephone numbers.

Further steps:
– *Save your settings before you leave the page.*

Importing Exception Telephone Numbers

The columns **Telephone number / range**, **Name** can be imported from a text file (e.g., *.txt, *.csv).

The import can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Exception telephone numbers saved on the hard drive as a text file (e.g., *.txt, *.csv), data arranged in rows and separated by semicolons*

1. Open the page **FUNCTIONS > VoIP/GSM routing**.
2. Click **Browse** (this text is dependent on the operating system used).

   A file selection dialog opens.
3. Select the file to be imported and click **Open** (this text is dependent on the operating system used).
4. Click **Import**.

   The exception telephone numbers are saved in the PBX.

Exporting Exception Telephone Numbers

The columns **Telephone number / range** and **Name** can be exported as a text file (*.txt). The data is arranged in rows and separated by semicolons in this file.

The export can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Existing exception telephone numbers*

1. Open the page **FUNCTIONS > VoIP/GSM routing**.
2. Click **Export**.

   A dialog for downloading the text file "exceptionnphoneno.txt" opens.
3. Save the text file on the PC.

Wake-up Functions

To be reminded of one-time or recurring appointments, every user can configure different wake-up times for his telephone.

Switching Wake-up On/Off

The wake-up time can set for a one-time wake-up or recurring wake-up. Recurring wake-up is carried out until you switch it off. A configured one-time wake-up time remains saved in the PBX until you configure another one. Let's assume you enable the wake-up time "Monday to Friday at 12.30 clock" on your telephone. If you configure this on a Sunday evening for "one-time wake-up", you will be woken up on the next Monday at 12:30 p.m. Afterwards, the wake-up function switches off automatically. If you configure the same wake-up time but instead as recurring, you are also woken up Tuesday through Friday at 12:30 p.m. (every week until you switch the wake-up function off).

A maximum of 20 wake-up times can be configured for each subscriber.

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager
- Using a character string on the internal telephone

Entering a Wake-up Time and Enabling a Wake-up via Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **PROPERTIES > Internal subscribers > Wake-up times**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Enter the time in the first available **wake-up time** entry field under **hh** and **mm**. The following entries are possible:

   Time in hh format: mm

   00 to **23**: Hours (hh)

   00 to **59**: Minutes (mm)
4. Select the desired day(s) for the wake-up call in the **Day** list field.

Note: On activated holidays, you can enable the wake-up call for a Sunday instead using the wake-up call for that weekday.

5. Select or clear the **Always** check box.
   - ☑ Enables recurring wake-up.
   - ☐ Enables a one-time wake-up. Once the wake-up call has been carried out, it is deleted.
6. Select the **Activated** check box.
   - ☑ Enables the wake-up call in question.

Further steps:
– *Save your settings before you leave the page.*

Switching Wake-up Off via the Configuration Manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Entered wake-up time and wake-up enabled for the subscriber*

1. Open the page **PROPERTIES > Internal subscribers > Wake-up times**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Clear the **Activated** check box for the wake-up call in question.
   - ☐ Disables the wake-up call in question.

Note: The settings for the wake-up call are not deleted by switching off the function. To delete all of the settings for the wake-up call, the entire entry must be deleted.

Further steps:
– *Save your settings before you leave the page.*

Entering and Enabling a Wake-up Time via the Internal Telephone

Requirements:

– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*

– *A user PIN configured for the subscriber*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the user PIN.
4. Dial one of the following character strings.

   ***31**: Enables a one-time wake-up.

   ***32**: Enables recurring wake-up.
5. Enter the time. The following entries are possible:

   4-digit time in hhmm format

   00 to **23**: Hours (hh)

   00 to **59**: Minutes (mm)
6. Dial one of the following character strings:

   1#: Enables the wake-up time Monday.

   2#: Enables the wake-up time Tuesday.

   3#: Enables the wake-up time Wednesday.

   4#: Enables the wake-up time Thursday.

   5#: Enables the wake-up time Friday.

   6#: Enables the wake-up time Saturday.

   7#: Enables the wake-up time Sunday.

   8#: Enables the wake-up time Saturday and Sunday.

   9#: Enables the wake-up time Monday through Friday.

   0#: Enables the wake-up time for every day.

Switching Wake-up Off via the Internal Telephone

Requirements:

– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*

– *User PIN configured for the subscriber*

1. Pick up the receiver.

2. Dial **##8**.
3. Enter the user PIN.
4. Dial ***33#**.

Deleting the Wake-up Times of all Subscribers via an Internal Telephone

Requirements:

– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*

– *Knowledge of the sub-admin or admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin or admin PIN.
4. Dial ***34#**.

Overview of the Wake-up Times

The overview of the wake-up times shows all of the previously created wake-up calls.

Note:

The overview can be opened in the configuration manager by selecting **Wake-up times** in the list field next to and then clicking . To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

Switching Wake-up on Holidays On/Off

If wake-up on holidays is enabled, a wake-up call configured for a Sunday is carried out on activated holidays instead of the wake-up call of the corresponding weekday.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Wake-up times > Settings**.
2. Select or clear the **Treat holidays like Sundays** check box.
   - ☑ Enables wake-up on holidays.
   - ☐ Disables wake-up on holidays.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Maximum Number of Wake-up Calls

The maximum number of wake-up calls indicates how often a wake-up call should be carried out per wake-up time. The wake-up sequence for each wake-up time ends before the configured time has elapsed as soon as the wake-up call has been acknowledged.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Wake-up functions > Settings**.
2. Select one of the following options in the **Maximum number of Wake-up call attempts per Wake-up time** list field.

   1 to **5**: A wake-up call is carried out a maximum of 1 to 5 times per wake-up time.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Call Duration of a Wake-up Call

The call duration of a wake-up call indicates how long a single wake-up call is signaled on the end device.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Wake-up functions > Settings**.
2. Enter a value in the **Call duration of a Wake-up call (30..120 sec.)** entry field. The following entries are possible:

   30 to **120**: A wake-up call is signaled for 30 to 120 seconds.

Further steps:

– *Save your settings before you leave the page.*

Configuring a Pause between Wake-up Calls

The pause between wake-up calls indicates how many minutes occur between the first and second wake-up calls as well as between each the second and the following wake-up calls.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Wake-up functions > Settings**.
2. Select one of the following options in the **Pause between the first and second wake-up call** list field under **Pause between wake-up calls**.

   1 to **15**: There is a pause of 1 to 15 minutes between the first and second wake-up calls.

3. Select one of the following options in the **Between all following wake-up calls** list field under **Pause between wake-up calls**.

   1 to **15**: There is a pause of 1 to 15 minutes between the second and the following wake-up calls.

Further steps:
– *Save your settings before you leave the page.*

Switching the Recording of Wake-up Calls in the Call Data Base On/Off

If the recording wake-up calls in the call data base is enabled, wake-up calls are entered in the call data.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Wake-up functions > Settings**.
2. Select or clear the **Record Wake-up calls in the call data base** check box.
   - ☑ Enables the recording of wake-up calls in the call data base.
   - ☐ Disables the recording of wake-up calls in the call data base.

Further steps:
– *Save your settings before you leave the page.*

Recording, Saving and Listening to Wake-up Announcements

When accepting a wake-up call, different wake-up announcements can be played back depending on the time of day. Up to three wake-up announcements can be configured for this.

Recording and listening to can be carried out as follows:

- Using a character string on the internal telephone

The saving procedure can be carried out as follows:

- Via the configuration manager

> **Note:** To enable specific wake-up announcements depending on the time of day, you need to create switching times and assign the configured wake-up announcements.

Saving the Wake-up Announcement from the PC into the PBX via the Configuration Manager

It is possible save up to three WAVE files stored on the PC as wake-up announcements in the PBX. When this is done, the wake-up announcements are automatically named (wake-up announcement 1 with "good_morning.wav," wake-up announcement 2 with "good_day.wav," wake-up announcement 3 with "good_evening.wav").

The WAVE files must have the following properties:

- Format: 16 kHz, 16-bit mono
- Maximum length: approx. 20 seconds
- Size in memory: max. 680 KB

> **Note:** If the WAVE file does not have the required properties you should convert it before you save it into the PBX. In the Internet you can find conversion programmes which can be downloaded for free. With the conversion programme **SoX** (Sound eXchange), version 14.3.1, for example, which can be downloaded via **SourceForge** (http://sox.sourceforge.net/), the conversion can be made using: sox.exe -V %1 -r 8000 -c 1 -A %1-ITK.wav.

Requirements:

– Configuration manager, opened with sufficient authorization

1. Open the page **FUNCTIONS > Wake-up functions > File and volume**.
2. In the **File** list field, select one of the following options:

   Wake-up announcement 1: Selects wake-up announcement 1.

   Wake-up announcement 2: Selects wake-up announcement 2.

   Wake-up announcement 3: Selects wake-up announcement 3.

3. Click **Browse** (this text is dependent on the operating system used) under **Store in the PBX**.

   A file selection dialog opens.

4. Select the file you want and click **Open** (this text is dependent on the operating system used).

   The path and the file name are displayed in the field next to **Browse**.

5. Click **Save**.

6. Click **OK**.

Recording a Wake-up Announcement via an Internal Telephone

Up to three wake-up announcements can be recorded directly over the receiver of an internal telephone. When recording a new wake-up announcement, the currently existing announcement is overwritten directly.

Requirements:

– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
– *A configured sub-admin PIN*

1. Pick up the receiver.

2. Dial **##8**.

3. Enter the sub-admin PIN.

4. Dial one of the following character strings:

   5621: Selects announcement number one.

   5622: Selects announcement number two.

   5623: Selects announcement number three.

   You will hear the confirmation tone.

5. To start recording the announcement, dial *****.

6. Say the text you have prepared.

Note: The announcement text to be recorded can be up to 20 seconds long. After this time, recording is automatically stopped, and you will hear the confirmation tone.

7. To stop recording, dial **#**.

   You will hear a hold tone. Then the announcement just recorded is played back.

Note: To stop recording, you can also hang up the receiver.

Saving the Wake-up Announcement on the PC via the Configuration Manager

The wake-up announcements saved in the PBX ("good_morning.wav," "good_day.wav," "good_evening.wav") can be saved onto the PC as a backup copy.

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Wake-up functions > File and volume**.
2. In the **File** list field, select one of the following options:

   Wake-up announcement 1: Saves wake-up announcement 1 on the PC.

   Wake-up announcement 2: Saves wake-up announcement 2 on the PC.

   Wake-up announcement 3: Saves wake-up announcement 3 on the PC.
3. Click **Read** under **Read from PBX**.

   A file location dialog opens.
4. Select the desired location and click **Save** (this text is dependent on the operating system used).

Setting the Volume of Wake-up Announcement via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Wake-up functions > File and volume**.

2. In the **File** list field, select one of the following options:

   Wake-up announcement 1: Selects wake-up announcement 1.

   Wake-up announcement 2: Selects wake-up announcement 2.

   Wake-up announcement 3: Selects wake-up announcement 3.

3. Slide the **Volume** slider under **Settings** or enter a value in the entry field next to the slider. The following entries are possible:

   0 to **100**: The playback volume of wake-up announcement increases or decreases, depending on the value entered.

Further steps:
– *Save your settings before you leave the page.*

Listening to a Wake-up Announcement via an Internal Telephone

Requirements:
– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
– *A configured sub-admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin PIN.
4. Dial one of the following character strings:

   ***5721#**: Plays wake-up announcement number one back.

   ***5722#**: Plays wake-up announcement number two back.

   ***5723#**: Plays wake-up announcement number three back.

   You will hear the wake-up announcement.

Note: Depending on the length of the announcement, it may take some time for it to load. During this time, you will hear two short tones, around every 5 seconds.

Deleting a Wake-up Announcement (Restoring Default Wake-up Announcement) via an Internal Telephone

If a recorded wake-up announcement is deleted, the default wake-up announcement is automatically enabled.

Requirements:

– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*

– *A configured sub-admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin PIN.
4. Dial one of the following character strings:

   ***5521#**: Deletes wake-up announcement number one.

   ***5522#**: Deletes wake-up announcement number two.

   ***5523#**: Deletes wake-up announcement number three.

Creating Switching Times for Switching the Wake-up Announcement

To switch wake-up announcements on and off depending on the time of day, different switching times can be created.

The creation can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **FUNCTIONS > Configurations > Create switching times**.
2. Select the desired day in the **Day** list field.

3. Enter the time in the line of the corresponding day in the **Time** entry field under **hh** and **mm**. The following entries are possible:

   Time in hh format: mm

   00 to **23**: Hours (hh)

   00 to **59**: Minutes (mm)

4. Select the desired wake-up announcement in the **Wake-up announcement** list field.

Further steps:
– *Save your settings before you leave the page.*

X.31

Using X.31 on ISDN, for example, electronic cash reading devices can be operated on the internal S_0 port. The data are mainly exchanged with the remote station over the D-channel (X.25), and the B-channels remain available for telephone calls and faxes. In most cases, this service must be enabled by the network provider beforehand.

Switching X.31 On/Off

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *Internal and external S_0 port (only COMpact 3000 ISDN with COMpact S_0 module or COMpact ISDN module available as an option)*
– *The protocol on the internal S_0 bus (X.25/X.31) acquired and enabled in the Upgrade Center*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the ISDN connection in question.

   A page opens for configuring the ISDN connection.
3. Open the page **ISDN connection > Name and functions**.
4. Select or clear the **X.31** check box under **Special connection functions**.

   ☑ Enables X.31.

   ☐ Disables X.31.

Further steps:

– *Save your settings before you leave the page.*

Configuring and Managing the PBX

This section describes how to configure and manage the PBX.

Topics

– Identification (page 337)
– Internet Access (page 345)
– Internal Telephone Numbers (page 348)
– Analog Connection (page 360)
– ISDN Connection (page 387)
– VoIP (page 394)
– DECT System Telephones (page 438)
– GSM Gateway (page 446)
– Call Distribution (page 448)
– Emergency Call (page 454)
– PBX Time (page 457)
– Calendar (page 463)
– Tones (page 467)
– Ringer Rhythms (page 470)
– Protection from Unauthorized Access (page 476)
– Exchange Line Access (page 482)
– Transfer and Callback (page 484)
– PBX Data (page 489)

Identification

The PBX is integrated into an existing network. To make sure the PBX can be identified in this network, several settings must be configured.

> **Note:** In the factory settings, the DHCP client is enabled and the PBX is accessible via the permanent IP address 169.254.1.240.

Switching the DHCP Client On/Off

If the DHCP client function has been enabled, the PBX automatically receives its IP address from an DHCP server.

The DHCP client can be enabled/disabled as follows made:

- Via the configuration manager
- Using a character string on the internal telephone

Switching DHCP Client On/Off via the Configuration Manager

Requirements:

– Configuration manager, opened with sufficient authorization

1. Open the page **CONFIGURATION > Server configuration > Network**.

   > **Note:** Switching this on/off is also provided during the quick configuration using the configuration wizard.

2. Select or clear the **Receive the IP address automatically (DHCP client)** check box under **Ethernet configuration**.

   ☑ Enables the DHCP client.

   ☐ Disables the DHCP client.

Further steps:

– Save your settings before you leave the page.

Switching the DHCP Client On/Off via an Internal Telephone

Requirements:

– *Knowledge of the sub-admin or admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin or admin PIN.
4. Dial one of the following character strings:

   ***930*1#**: Enables the DHCP client.

   ***930*0#**: Disables the DHCP client.
5. Hang up the receiver.

Querying the DHCP Client Status via an Internal Telephone.

Requirements:

– *CLIP-enabled telephone*

– *CLIP function enabled in the PBX (display of the telephone numbers)*

1. Pick up the receiver.
2. Dial **##8*940#**.
3. Hang up the receiver.

   You will get a call. The DHCP client status is shown on the telephone display.

Configuring the IP Address on the PBX

The IP Address can be configured as follows:

- Via the configuration manager
- Using a character string on the internal telephone

Configuring the PBX IP Address via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Disabled DHCP client*

1. Open the page **CONFIGURATION > Server configuration > Network**.

   Note: The configuration is also provided during the quick configuration using the configuration wizard.

2. In the **IP address** entry field under **Ethernet configuration**, enter the IP address of the PBX. The following entries are possible:

   IP address with a range of 0 to 255 (example: 192.168.0.240)

   A dialog for applying the setting opens.

3. Click one of the following buttons:

   Apply immediately: The IP address is immediately applied and the PBX is routed to the new IP address. After the rerouting, you need to log in again.

   Apply at restart: The IP address is not applied until the next time the PBX is restarted.

Further steps:
– *Save your settings before you leave the page.*

Configuring the PBX IP Address via an Internal Telephone

Requirements:
– *Disabled DHCP client*
– *Knowledge of the sub-admin or admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin or admin PIN.
4. Dial ***931***.
5. Enter the IP address for the PBX. The following entries are possible:

   12 digits (e.g.: for the IP address 192.168.0.240, enter 192168000240)

6. Dial **#**.
7. Hang up the receiver.

Querying the PBX IP Address via an Internal Telephone

Requirements:

– *CLIP-enabled telephone*

– *CLIP function enabled in the PBX (display of the telephone numbers)*

1. Pick up the receiver.
2. Dial **##8*941#**.
3. Hang up the receiver.

   You will get a call. The PBX IP address is shown on the telephone display.

Configuring the Subnet Mask

The Subnet mask can be configured as follows:

- Via the configuration manager
- Using a character string on the internal telephone

Configuring the Subnet Mask via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Disabled DHCP client*

1. Open the page **CONFIGURATION > Server configuration > Network**.

   Note: The configuration is also provided during the quick configuration using the configuration wizard.

2. In the **Subnet mask** entry field under **Ethernet configuration**, enter the subnet mask. The following entries are possible:

   IP address (e.g.: 255.255.255.0)

Further steps:

– *Save your settings before you leave the page.*

Configuring the Subnet Mask via an Internal Telephone

Requirements:

– *Disabled DHCP client*

– *Knowledge of the sub-admin or admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin or admin PIN.
4. Dial ***932***.
5. Enter the IP address of the subnet mask. The following entries are possible:

   12 digits (e.g.: for the IP address 255.255.255.0, enter 255255255000)
6. Dial **#**.
7. Hang up the receiver.

Querying the Subnet Mask via an Internal Telephone

Requirements:

– *CLIP-enabled telephone*

– *CLIP function enabled in the PBX (display of the telephone numbers)*

1. Pick up the receiver.
2. Dial **##8*942#**.
3. Hang up the receiver.

   You will get a call. The subnet mask is shown on the telephone display.

Configuring the Gateway

The Gateway can be configured as follows:

- Via the configuration manager
- Using a character string on the internal telephone

Configuring Gateway via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Disabled DHCP client*

1. Open the page **CONFIGURATION > Server configuration > Network**.

   Note: The configuration is also provided during the quick configuration using the configuration wizard.

2. In the **Gateway** entry field under **Ethernet configuration**, enter the IP address of the gateway. The following entries are possible:

   IP address with a range of 0 to 255 (example: 192.168.0.2)

Further steps:

– *Save your settings before you leave the page.*

Configuring the Gateway via an Internal Telephone

Requirements:

– *Disabled DHCP client*

– *Knowledge of the sub-admin or admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin or admin PIN.
4. Dial ***933***.
5. Enter the IP address of the gateway. The following entries are possible:

   12 digits (e.g.: for the IP address 192.168.0.2, enter 192168000002)

6. Dial **#**.
7. Hang up the receiver.

Querying the Gateway via an Internal Telephone

Requirements:

– *CLIP-enabled telephone*

– *CLIP function enabled in the PBX (display of the telephone numbers)*

1. Pick up the receiver.
2. Dial **##8*943#**.
3. Hang up the receiver.

   You will get a call. The gateway IP address is shown on the telephone display.

Configuring the Country Prefix

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > External telephone numbers > Location**.

   Note: The configuration is also provided during the quick configuration using the configuration wizard.

2. In the **Country prefix** entry field, enter the country prefix for the location of the installation. The following entries are possible:

   Digits (e.g.: 0049 for Germany)

Further steps:

– *Save your settings before you leave the page.*

Configuring the Local Area Code

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > External telephone numbers > Location**.

   Note: The configuration is also provided during the quick configuration using the configuration wizard.

2. In the **Local area code** entry field, enter the local area code for the location of the installation. The following entries are possible:

   Digits (e.g.: 030 for Berlin)

Further steps:

– *Save your settings before you leave the page.*

Internet Access

In order to carry out Voice over IP or functions such as an online name search, the PBX must be prepared for Internet access by configuring a few settings.

Configuring the DNS Server

A DNS server is necessary for Internet access. The data is specified by the Internet service provider or system administrator of the network.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– Configuration manager, opened with sufficient authorization

1. Open the page **CONFIGURATION > Server configuration > Network**.

   Note: The configuration is also provided during the quick configuration using the configuration wizard.

2. In the **First DNS server** and **Second DNS server** entry fields under **DNS configuration**, enter the IP address for each of the DNS servers. The following entries are possible:

   IP address with a range of 0 to 255 (example: 192.168.0.12)

   Note: If you cannot enter a DNS server, the gateway is automatically used instead.

Further steps:

– Save your settings before you leave the page.

Configuring the HTTP Proxy

An HTTP proxy is a proxy for the HTTP protocol, over which Internet sites are called or files downloaded.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **CONFIGURATION > Server configuration > Network**.
2. Select or clear the **HTTP proxy** check box under **HTTP proxy configuration**.
   - ☑ Enables the HTTP proxy.
   - ☐ Disables the HTTP proxy. (No other action is required.)
3. In the **IP address or URL** entry field under **HTTP proxy configuration**, enter the HTTP proxy. The following entries are possible:

   IP address with a range of 0 to 255 (example: 123.123.123.123)

   URL (example: www.proxyserver.de)
4. In the **Port** entry field under **HTTP proxy configuration**, enter the associated port number (port). The following entries are possible:

   1 to **65535**
5. Select or clear the **Proxy authorization** check box under **HTTP proxy configuration**.
   - ☑ Enables proxy authorization.
   - ☐ Disables proxy authorization. (No other action is required.)
6. Enter the user name for the authorization into the HTTP proxy in the **User name** entry field under **HTTP proxy configuration**.
7. Enter the password for the authorization into the HTTP proxy in the **Password** entry field under **HTTP proxy configuration**.

Further steps:

– *Save your settings before you leave the page.*

Switching Increased Protection against Cross-Site Scripting (XSS) On/Off

To protect against Cross-Site Scripting, certain special characters may not be entered in the configuration manager. If increased protection against Cross-Site Scripting has been enabled, additional special characters are added to the list of restricted special characters.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Server configuration > Network**.
2. Select or clear the **Increased protection (against XSS)** check box under **Webserver configuration**.
   - ☑ Enables increased protection against Cross-Site Scripting (XSS). The following characters are automatically removed after being entered in the configuration manager: **" $ % < > \ [ ] ^ { } ' # & + /**.
   - ☐ Disables increased protection against Cross-Site Scripting (XSS). The following characters are automatically removed after being entered in the configuration manager: **" $ % < > \ [ ] ^ { }**.

Further steps:

– *Save your settings before you leave the page.*

Internal Telephone Numbers

Up to 32 internal telephone numbers for subscribers or line groups can be allocated on the PBX.

Internal phone numbers must be configured for the internal ports so that the connected end devices are accessible. Each connected end device receives a subscriber telephone number.

If multiple internal end devices need to be accessible via a telephone number, a common line group for the internal subscribers must first be configured.

Note: It is a good idea to create a telephone numbering plan for the internal telephone numbers before allocation and then use the following steps to transmit this to the PBX.

Possible Types of Internal Telephone Numbers

Internal telephone numbers are taken from the internal telephone number plan. The following types are possible:

- Telephone numbers for subscribers
- Telephone numbers for line groups
- Basis telephone number for call parking
- CAPI dial-in numbers

More Information about the Internal Telephone Number Plan

The telephone number plan on the PBX includes the internal telephone numbers 10-9999. The following telephone numbers have already been allocated from this number range:

- **701** to **706**: Voice mailboxes
- **801** to **806**: Fax boxes
- **8750** to **8799**: Reserved for internal call distribution groups in the PBX

Note: Due to the permanent allocation of these internal telephone numbers, the following telephone numbers can no longer be allocated: 70, 80, 87, 875-879

The following telephone numbers can also be freely allocated from the number range:

- Exchange line access numbers (account numbers) for VoIP (**8000** in the factory settings for the VoIP account named **VoIP**)
- Internal telephone numbers for subscribers (**21** to **24** in the factory settings for analog subscribers)
- Internal telephone numbers for line groups (**8700** in the factory settings for the configured subscribers 21 to 23)
- Internal basis telephone number for call parking
- Internal CAPI dial-in number
- Short-code numbers
- Emergency numbers (**110** and **112** in the factory settings of the German PBX models)

Note:

Double allocation of a number is not possible.

Using telephone numbers with few digits (two or three-digit numbers) inevitably restricts the possible supply of telephone numbers with more digits. For example, if the telephone number 12 is assigned, the telephone numbers 120-129 and 1200-1299 are no longer available.

The default exchange line access number on the PBX is "0" in the factory settings; however, this can be changed. Note that changing the exchange line access number restricts the telephone number plan.

The telephone number plan can be opened in the configuration manager by selecting **Telephone number plan** in the list field next to and then clicking . To close the overview, click **Close**. The overview can be printed by clicking **Print**.

Creating Analog Subscribers

The analog subscribers are on the end devices for which internal telephone numbers are allocated and that are connected to analog ports. The telephone numbers are used to access the end devices via the PBX.

The basic assembly has four analog ports. It is possible to add two ports is using a COMpact 2a/b module.

The creation can be carried out as follows:

- Via the configuration manager

Requirements:

– Configuration manager, opened with sufficient authorization

1. Open the page **CONFIGURATION > Internal numbers > Analog subscribers**.

   The pre-configured analog subscribers are displayed.

   Note: The creation is also provided during the quick configuration using the configuration wizard.

   ---

2. If necessary, change one of the internal telephone numbers displayed or enter a new internal number in the **From** entry field under **Telephone numbers**. The following entries are possible:

   2 to 4 digits in the range of **10** to **9999**

   Note:

   Double allocation of a number is not possible.

   The telephone numbers 70, 80, 87, 701-706, 801-806, 875-879 and 8750-8799 cannot be freely allocated. They are required for internal PBX use.

   Using telephone numbers with few digits (two or three-digit numbers) inevitably restricts the possible supply of telephone numbers with more digits. For example, if the telephone number 12 is assigned, the telephone numbers 120-129 and 1200-1299 are no longer available.

   The default exchange line access number on the PBX is "0" in the factory settings; however, this can be changed. Note that changing the exchange line access number restricts the telephone number plan.

   ---

3. Enter a name for identification purposes in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters

   Note: The name is used for display purposes on the system telephone. Furthermore, on some pages in the configuration manager (e.g., call data list), the name is displayed in addition to the telephone number.

   ---

4. Select one of the following options from the **Device type** list field depending on the device connected.

analog, unspecified: Analog telephone, analog modem

analog, DTMF telephone: Analog telephone with dual-tone multi-frequency

analog, pulse dial telephone: Analog telephone with pulse dialling

Answering machine: Analog answering machine

Fax machine: Analog fax machine

Note: The PBX automatically detects the dialling type of the analog private branch exchange.

---

5. Select the analog port to which the end device is connected from the **Port** list field.
6. Click .

Note: The subscriber properties, wake-up times and a time account (or call allowance account on a COMpact 3000 ISDN or on the COMpact ISDN module available as an option) are configured on the page **PROPERTIES > Internal subscribers**. Click to switch directly to this page.

---

7. Repeat step 2 to 6 to enter additional telephone numbers.

Further steps:
– *Save your settings before you leave the page.*

Creating ISDN Subscribers

The ISDN subscribers are on the end devices for which internal telephone numbers are allocated and that are connected to the internal S_0 port. The telephone numbers are used to access the end devices via the PBX.

Note:

It is a good idea to not connect more than two devices on the S_0 port in order to allow separate calling on either of the two B-channels.

The internal telephone number entered here needs to be entered in the ISDN unit or in the system telephone as the (first) MSN. Also on an ISDN unit, make sure that the telephone number is transmitted to the PBX.

If a COMfortel DECT 900 Base is on the internal S_0 port, no further end devices can be run on this port due to output limitations.

A maximum of five telephone numbers can be allocated on a COMfortel DECT 900 Base for the mobile handsets (three are recommended).

The creation can be carried out as follows:

- Via the configuration manager

Requirements:

– *Internal S_0 port (only provided on the COMpact S_0 module or COMpact ISDN module available as an option)*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Internal numbers > ISDN subscribers**.

   Note: The creation is also provided during the quick configuration using the configuration wizard.

2. If necessary, change one of the internal telephone numbers displayed or enter a new internal number in the **From** entry field under **Telephone numbers**. The following entries are possible:

   2 to 4 digits in the range of **10** to **9999**

   Note:

   Double allocation of a number is not possible.

   The telephone numbers 70, 80, 87, 701-706, 801-806, 875-879 and 8750-8799 cannot be freely allocated. They are required for internal PBX use.

   Using telephone numbers with few digits (two or three-digit numbers) inevitably restricts the possible supply of telephone numbers with more digits. For example, if the telephone number 12 is assigned, the telephone numbers 120-129 and 1200-1299 are no longer available.

   The default exchange line access number on the PBX is "0" in the factory settings; however, this can be changed. Note that changing the exchange line access number restricts the telephone number plan.

3. Enter a name for identification purposes in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters

Note: The name is used for display purposes on the system telephone. Furthermore, on some pages in the configuration manager (e.g., call data list), the name is displayed in addition to the telephone number.

4. Select one of the following options from the **Device type** list field depending on the device connected.

   ISDN telephone: ISDN telephone in compliance with the Euro ISDN Standard (DSS1)

   ISDN system telephone: System telephone COMfortel 1100/1500/2500/ 2500 TAM (as of firmware version 3.6C)

   ISDN PC controller: ISDN PC controller in compliance with the Euro ISDN Standard (DSS1)

   DECT system telephone: COMfortel DECT 900 Base

   Fax machine: ISDN fax machine in compliance with the Euro ISDN Standard (DSS1)

5. Select the port to which the end device is connected from the **Port** list field.

6. Click .

Note: The subscriber properties, wake-up times and a time account (or call allowance account on a COMpact 3000 ISDN or on the COMpact ISDN module available as an option) are configured on the page **PROPERTIES > Internal subscribers**. Click to switch directly to this page.

7. Repeat step 2 to 6 to enter additional telephone numbers.

Further steps:
– *Save your settings before you leave the page.*

Creating VoIP Subscribers

The VoIP subscribers are on the end devices for which internal telephone numbers are allocated and that are connected to the Ethernet port. The telephone numbers are used to access the end devices via the PBX (internal IP telephony).

A total of up to eight VoIP subscribers can be created.

Note: The PBX provides the codecs G.722, G.711, G.726 and iLBC for internal IP telephony. A Standard VoIP telephone must support at least one of these codecs.

The creation can be carried out as follows:

- Via the configuration manager

Requirements:

– *Internal VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and enabled in the Upgrade Center)*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Internal numbers > VoIP subscribers**.

   Note: The creation is also provided during the quick configuration using the configuration wizard.

2. If necessary, change one of the internal telephone numbers displayed or enter a new internal number in the **From** entry field under **Telephone numbers**. The following entries are possible:

   2 to 4 digits in the range of **10** to **9999**

   Note:

   Double allocation of a number is not possible.

   The telephone numbers 70, 80, 87, 701-706, 801-806, 875-879 and 8750-8799 cannot be freely allocated. They are required for internal PBX use.

   Using telephone numbers with few digits (two or three-digit numbers) inevitably restricts the possible supply of telephone numbers with more digits. For example, if the telephone number 12 is assigned, the telephone numbers 120-129 and 1200-1299 are no longer available.

   The default exchange line access number on the PBX is "0" in the factory settings; however, this can be changed. Note that changing the exchange line access number restricts the telephone number plan.

3. Enter a name for identification purposes in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters

   Note: The name is used for display purposes on the system telephone. Furthermore, on some pages in the configuration manager (e.g., call data list), the name is displayed in addition to the telephone number.

   ---

4. Select one of the following options from the **Device type** list field depending on the end device connected.

   VoIP system telephone: COMfortel VoIP 2500 AB system telephone

   Standard VoIP telephone: Standard VoIP end device (SIP), soft phone (SIP)

5. Click .

   Note: The subscriber properties, wake-up times and a time account (or call allowance account on a COMpact 3000 ISDN or on the COMpact ISDN-module available as an option) are configured on the page **PROPERTIES > Internal subscribers**. Click to switch directly to this page.

   ---

6. Repeat step 2 to 5 to enter additional telephone numbers.

Further steps:
– *Save your settings before you leave the page.*
– *Configure your VoIP end devices.*

Creating Notes for Internal Subscribers

You can create notes for the subscribers in the PBX (e.g., location of the device, ...).

Creation can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Hardware**.

2. In the **Notes** entry fields, enter the information that you would like to note. The following entries are possible:

   Up to 64 digits

   Digits and characters

Further steps:
– *Save your settings before you leave the page.*

Overview of the Subscribers

The subscriber overview shows all of the subscribers already created along with their telephone numbers and names.

Note:

The overview can be opened in the configuration manager by selecting **Subscribers** in the list field next to and then clicking . To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

Creating Line Groups

A line group is made up of multiple internal end devices at the same time. A telephone number for line groups is used to access the end devices that belong to the line group via the PBX.

A maximum of six telephone numbers for line groups are allocated.

The creation can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Internal numbers > Line groups**.

2. If necessary, change one of the internal telephone numbers displayed or enter a new internal number in the **From** entry field under **Telephone numbers**. The following entries are possible:

   2 to 4 digits in the range of **10** to **9999**

   Note:

   Double allocation of a number is not possible.

   The telephone numbers 70, 80, 87, 701-706, 801-806, 875-879 and 8750-8799 cannot be freely allocated. They are required for internal PBX use.

   Using telephone numbers with few digits (two or three-digit numbers) inevitably restricts the possible supply of telephone numbers with more digits. For example, if the telephone number 12 is assigned, the telephone numbers 120-129 and 1200-1299 are no longer available.

   The default exchange line access number on the PBX is "0" in the factory settings; however, this can be changed. Note that changing the exchange line access number restricts the telephone number plan.

   ---

3. Enter a name for identification purposes in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters

   Note: The name is used for display purposes on the system telephone. Furthermore, on some pages in the configuration manager (e.g., call data list), the name is displayed in addition to the telephone number.

   ---

4. Click .

   Note: The line group subscribers are assigned on the page **PROPERTIES > Group members**. Click to switch directly to this page.

   ---

5. Repeat step 2 to 4 to enter additional telephone numbers.

Further steps:

– *Save your settings before you leave the page.*

Assigning Subscribers to a Line Group

A line group is made up of internal end devices that are assigned to the line group.

The assignment can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *The internal telephone number configured for the line group*
– *The internal telephone numbers configured for the subscribers*

1. Open the page **PROPERTIES > Group members**.

   The **Subscribers** table shows all of the subscribers already created along with their internal telephone numbers and names.

2. In the list field at the top, select the line group in question using the telephone numbers/names.

3. Select or clear the check box to the left of the subscribers that are assigned as members of the line group.

   ☑ Assign the subscribers to the line group (group member).

   ☐ Does not assign the subscribers to the line group (group member).

Further steps:
– *Save your settings before you leave the page.*

Group Overview

The group overview shows all of the line groups already created along with telephone numbers and names.

Note:

The overview can be opened in the configuration manager by selecting **Groups** in the list field next to ⓘ and then clicking ⓘ. To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

Overview of Internal Telephone Numbers

The telephone number plan shows all of the internal telephone numbers already created. In addition, any additional numbers are displayed that have been taken from the internal telephone number plan (e.g., exchange line access number on the PBX).

Note:

The telephone number plan can be opened in the configuration manager by selecting **Telephone number plan** in the list field next to and then clicking . To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

Analog Connection

The COMpact 3000 analog provides an external analog port on both the German and international PBX models.

On the German PBX models, this analog port has already been configured with the default settings that are required for analog ports in Germany. When a country is selected, the international models are automatically configured with the default settings required for analog ports in the country selected.

In addition, it is possible to change the country-specific settings via the configuration manager.

Entering the Name for the Analog Connection

The name of the analog connection is used for identification purposes. For example, it is shown for incoming external calls on the display of the internal subscriber (alpha-numeric CLIP-capable or ISDN subscribers).

The entry can be made as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Name and functions**.
4. In the **Name of the connection** entry field, enter the desired name. The following entries are possible:

   Up to 16 digits

   Digits and characters

Further steps:

– *Save your settings before you leave the page.*

Entering Telephone Numbers

The telephone number indicates which digit sequence a caller must dial from the local telephone network in order to initiate the analog connection. The telephone number is allocated by the network provider of the analog connection.

The entry can be made as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Telephone numbers**.

   Note: The entry is also provided during the quick configuration using the configuration wizard.
4. In the **Telephone number** entry field, enter the digit sequence that you received from your computer network provider. The following entries are possible:

   Up to 12 digits

   Digits
5. In the **Name** entry field, enter a name for the telephone number. The following entries are possible:

   Up to 16 digits

   Digits and characters

   Note: The name is used for display purposes on the system telephone.

Further steps:

– *Save your settings before you leave the page.*

Overview of External Telephone Numbers

The overview shows all of the previously created external telephone numbers with names.

Note:

The overview can be opened in the configuration manager by selecting **External phone numbers** in the list field next to and then clicking . To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

More Information on Country-specific Settings

The analog port has default settings that are required for analog ports in the corresponding country (determined during country selection during the initial configuration of German PBX models and international PBX models). Normally, these default values should not be changed.

Note: If modifications are necessary, configure them according to the instructions provided by your network provider on the page **CONFIGURATION > External phone numbers > Analog connection > Advanced settings**.

Applying Country-specific Default Settings

The country-specific settings for the analog port can be changed (e.g., for a GSM gateway connection that has been purchased in another country and therefore requires other default settings).

The settings can be applied as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. In the **Apply country settings from** list field, select the desired country.
5. Click **OK**.

   For the analog port, the default settings for the country selected are configured under **General info**, **Line connection**, **Start of call (outgoing calls)**, **End of the call**, **CLIP**, **Control commands**, **Tones** and **Ring signal**.

Further steps:
– *Save your settings before you leave the page.*

Configuring Flash Time

The flash time indicates how many milliseconds the PBX interrupts the voice circuit to trigger special functions.

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.

4. In the **Flash time** list field under **General info**, select one of the following options:

   100 ms to **1 s**: The PBX interrupts the voice circuit for 100 to 1000 milliseconds.

Note:

In order to use service attributes provided by the network provider, such as callback on busy (CCBS), a longer flash time is usually necessary (e.g., 170-300 ms; in Germany, a flash time of 300 ms is normal).

A flash time that is set too long could be interpreted by the central office as a hang-up of the receiver.

Further steps:
– *Save your settings before you leave the page.*

Configuring Line Impedance

The impedance indicates which values are required to enable the best speech quality on the lines.

Note:

In German PBX models, the impedance Z_{Euro} with the values 270 Ohm + 750 Ohm || 150 nF is specified.

Incorrect settings can cause echoing effects.

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.

2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.

3. Open the page **Analogue connection > Expert configuration**.

4. In the **Impedance** list field under **General info**, select the desired setting.

Further steps:
– *Save your settings before you leave the page.*

Configuring the Reception Amplification

The reception amplification indicates how many decibels the PBX increases all incoming audio signals.

This is necessary when local audio signals are perceived as too quiet (e.g., the volume of the speech that is output to the internal subscribers).

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.

2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.

3. Open the page **Analogue connection > Expert configuration**.

4. In the **Reception amplification** list field under **General info**, select one of the following options:

   0 dB to **+12 dB**: The PBX increases all incoming audio signals by 0 to 12 decibels.

Further steps:
– *Save your settings before you leave the page.*

Configuring Transmission Amplification

The transmission amplification indicates how many decibels the PBX increases all outgoing audio signals.

This is necessary if the recipient perceives the audio signals to be too quiet (e.g., the volume of the speech for an external communication partner).

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. In the **Transmission amplification** list field under **General info**, select one of the following options:

   0 dB to **+12 dB**: The PBX increases all outgoing audio signals by 0 to 12 decibels.

Further steps:
– *Save your settings before you leave the page.*

Switching Waiting for Dial Tone for a Line Connection On/Off

If waiting for dial tone is enabled, the PBX checks whether a dial tone is being transmitted from the central office before it dials a telephone number.

This is necessary if the external dial tone generated by the central office is not transmitted until after a long waiting period which results in the PBX initiating a dialling sequence that is too early and causes incorrect dialling.

Note:

The PBX dials as soon as it detects a dial tone or at the latest after waiting time for the line connection has elapsed.

Deactivate this setting when the dial tone from the central office is not transmitted cleanly and causes the PBX to not be detected. The PBX then dials for a line connection after the waiting time has elapsed.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. Select or clear the **Waiting for dial tone** check box under **Line connection**.

   ☑ Enables waiting for dial tone.

   ☐ Disables waiting for dial tone.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Waiting Time for the Line Connection

The waiting time for the line connection indicates how many seconds the PBX should wait before dialling a telephone number.

This is necessary if the external dial tone generated by the central office is not transmitted until after a long waiting period which results in the PBX initiating a dialling sequence that is too early and causes incorrect dialling.

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. In the **Waiting time** entry field under **Line connection**, enter a value. The following entries are possible:

   3 to **30**: After 3 to 30 seconds, the PBX dials a telephone number or as soon as the central office transmits the dial tone (if waiting for dial tone is enabled).

Further steps:
– *Save your settings before you leave the page.*

Switching Line Access Code Transmission On/Off

If line access code transmission is enabled, the digit/digit sequence entered is automatically inserted before the telephone number dialled.

This is necessary if the central office always requires a specific leading digit/digit sequence that is not a part of the actual telephone number.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. Select or clear the **Transmit line access code automatically** check box under **Line connection**.

   ☑ Enables line access code transmission.

   ☐ Disables line access code transmission. (No other action is required.)
5. In the **Transmit line access code automatically** entry field under **Line connection**, enter the required digit or digit sequence. The following entries are possible:

   Up to 16 digits

   Digits and the characters * and #

Further steps:

– *Save your settings before you leave the page.*

Switching Line Access Code Detection On/Off

If line access code detection is enabled, a dialling pause of 3 seconds is automatically inserted after the digit/digit sequence entered is dialled.

This is necessary if the central office requires a pause after the line access code entered has been dialled.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog)*

– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. Select or clear the **Detect line access code and wait** check box under **Line connection**.

   ☑ Enables the detection of the line access code entered.

   ☐ Disables the detection of the line access code entered. (No other action is required.)
5. In the **Detect line access code and wait** entry field under **Line connection**, enter the required digit or digit sequence for which a dialling pause should be inserted after it is dialled. The following entries are possible:

   Up to 16 digits

   Digits

Further steps:
– *Save your settings before you leave the page.*

Switching Loop Current Detection for Line Connection On/Off

If loop current detection for the line connection is enabled, the PBX checks whether loop current is present on the line to be connected.

Note:

If loop current is detected, the line is then used.

If no loop current is detected, the line is considered as not being active or not present.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog)*
– *Network provider support for loop current detection for determining the line connection*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. Select or clear the **Loop current detection** check box under **Line connection**.

   ☑ Enables loop current detection.

   ☐ Disables loop current detection.

Further steps:

– *Save your settings before you leave the page.*

Configuring Delay Time after Last Digit Dialled

The delay time after last digit dialled is the amount of time until the PBX detects the end of dialling. The time measurement restarts after each digit entered. After the configured time has passed, the PBX detects the digit just dialled as the last digit and allows no further entry.

> **Note:** In order to shorten the delay time between the last digit and establishing the connection, you can complete dialling the telephone number by pressing # key (pound sign). The PBX recognizes this character as the end of dialling.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog)*

– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. In the **Delay time after last digit dialled** entry field under **Start of call (outgoing calls)**, enter a value. The following entries are possible:

   3 to **30**: After 3 to 30 seconds of no dialling of a digit, the PBX detects the end of dialling.

Note:

Since the PBX does not pass on the last digit to the central office until after the configured time has elapsed, select a time that is as short as possible.

Approximately 3 seconds is a good default value for manual entries.

Further steps:
– *Save your settings before you leave the page.*

Switching Pound Sign Transmission On/Off

If pound sign transmission is enabled, the PBX transmits the pound sign (#) to the central office after a telephone number has been dialled.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. Select or clear the **Transmit #** check box under **Start of call (outgoing calls)**.
   - ☑ Enables pound sign transmission.
   - ☐ Disables pound sign transmission.

Further steps:
– *Save your settings before you leave the page.*

Switching Busy Tone Detection for Call Start On/Off

If busy tone detection is enabled (recommended), one of the busy tones transmitted from the central office is detected by the PBX.

This is necessary to enable to activate the CCBS function (callback on busy) with the internal telephones on the PBX.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.

4. Select or clear the **Busy tone detection** check box under **Start of call (outgoing calls)**.
   - ☑ Enables busy tone detection.
   - ☐ Disables busy tone detection.

Further steps:
– *Save your settings before you leave the page.*

Switching Line Polarity Reversal Detection for Start of Call On/Off

If line polarity reversal detection is enabled, the PBX network provider detects the polarity reversal as a signal for routing the voice path.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *Line polarity reversal support at start of call by the network provider*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. Select or clear the **Polarity reversal of the line** check box under **Start of call (outgoing calls)**.
   - ☑ Enables line polarity reversal detection.
   - ☐ Disables line polarity reversal detection.

Further steps:
– *Save your settings before you leave the page.*

Configuring Maximum Hold Time before Establishing Audio Connection

The hold time until the audio connection is established indicates how many seconds the PBX will wait at most for connection information transmitted from the central office. If after this time has elapsed and neither a busy signal, nor a continuous tone nor a polarity reversal of the line is detected, the PBX establishes the connection.

If the PBX detects a call tone and then a voice before the waiting time has elapsed, it also establishes the connection.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. In the **Max. hold time until audio connection established** entry field under **Start of call (outgoing calls)**, enter a value. The following entries are possible:

   0 to **30**: The PBX automatically establishes the connection after 0 to 30 seconds.

Further steps:

– *Save your settings before you leave the page.*

Switching Busy Tone Detection (Incoming) for End of Call On/Off

If busy tone detection is enabled, one of the busy tones transmitted from the central office is detected by the PBX.

This is necessary for detecting the end of the call connection and to enable the automatic hang-up of an ISDN telephone.

> **Note:** Deactivate this setting if interference on the external PBX line is interpreted as a busy signal and interrupts calls. In this case, the call needs to be ended on the PBX by the subscriber by hanging up.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. Select or clear the **Busy signal detection (incoming calls)** check box under **End of the call**.

   ☑ Enables busy tone detection.

   ☐ Disables busy tone detection. (No other action is required.)
5. In the **Minimum length of busy signal** entry field, enter a value. The following entries are possible:

   3 to **20**: The PBX must detect a busy signal sequence for 3 to 20 seconds to end the call. The purpose of this is to prevent, for example, speech from being interpreted as a busy signal.

Further steps:

– *Save your settings before you leave the page.*

Switching Busy Tone Detection (Outgoing) for End of Call On/Off

If busy tone detection is enabled, one of the busy tones transmitted from the central office is detected by the PBX.

This is necessary for detecting the end of the call connection and to enable the automatic hang-up of an ISDN telephone.

> **Note:** Deactivate this setting if interference on the external PBX line is interpreted as a busy signal and interrupts calls. In this case, the call needs to be ended on the PBX; the subscriber can do this by hanging up.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. Select or clear the **Busy signal detection (outgoing calls)** check box under **End of the call**.

   ☑ Enables busy tone detection.

   ☐ Disables busy tone detection. (No other action is required.)
5. In the **Minimum length of busy signal** entry field, enter a value. The following entries are possible:

   3 to **20**: The PBX must detect a busy signal sequence for 3 to 20 seconds to end the call. The purpose of this is to prevent, for example, speech from being interpreted as a busy signal.

Further steps:
– *Save your settings before you leave the page.*

Switching Continuous Tone Detection at End of Call On/Off

If continuous tone detection is enabled, the network provider sends a continuous tone via the PBX; this signal is interpreted as the end of the call connection.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *Network provider support for the continuous tone at the end of a call*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. Select or clear the **Continuous tone** check box under **End of the call**.
   - ☑ Enables continuous tone detection.
   - ☐ Disables continuous tone detection.

Further steps:
– *Save your settings before you leave the page.*

Switching Loop Current Detection at End of Call On/Off

If loop current detection at the end of a call is enabled, a reduction of the loop current to zero by the PBX network provider is interpreted as the end of the call.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *Network provider support for reducing the loop current at the end of a call*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. Select or clear the **Loop current detection** check box under **End of the call**.
   - ☑ Enables loop current detection.
   - ☐ Disables loop current detection.

Further steps:
– *Save your settings before you leave the page.*

Switching DTMF Code Detection at End of Call On/Off

If DTMF code detection is enabled, transmitting the DTMF code D via the PBX network provider is interpreted as the end of the call.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *Network provider support for the DTMF code D at the end of a call*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.

2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.

3. Open the page **Analogue connection > Expert configuration**.

4. Select or clear the **DTMF code D** check box under **End of the call**.

   ☑ Enables DTMF code D detection.

   ☐ Disables DTMF code D detection.

Further steps:
– *Save your settings before you leave the page.*

Switching Line Polarity Reversal Detection for End of Call On/Off

If line polarity reversal detection is enabled, the PBX network provider detects the polarity reversal as a signal for the end of the call.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *Line polarity reversal support at the end of a call by the network provider*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.

2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.

3. Open the page **Analogue connection > Expert configuration**.

4. Select or clear the **Polarity reversal of the line** check box under **End of the call**.

   ☑ Enables line polarity reversal detection.

   ☐ Disables line polarity reversal detection.

Further steps:
– *Save your settings before you leave the page.*

Configuring the Type of CLIP Information

The CLIP information type indicates whether and how the analog network provider sends the CLIP information.

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *CLIP service attribute enabled with the network provider (telephone number display)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. In the **Type of CLIP information** list field under **CLIP**, select one of the following options:

   no: The network provider sends no CLIP information.

   FSK: The network provider sends the CLIP information via frequency shift keying.

   DTMF and **DTMF (MaxComm)**: The network provider sends the CLIP information via dual tone multi frequency.

Further steps:
– *Save your settings before you leave the page.*

Configuring the CLIP Sub-version

The CLIP sub-version indicates when the analog network provider sends the CLIP information.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog)*
– *CLIP service attribute enabled with the network provider (telephone number display)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. In the **CLIP sub-version** list field under **CLIP**, select when the CLIP information will be sent by the network provider.

Note: By selecting the **No CLIP information evaluation** option, the data sent by the network provider is not passed on to the internal subscribers.

Further steps:

– *Save your settings before you leave the page.*

Configuring CLIP Amplification

The amplification of the CLIP information indicates the number of decibels all audio signals are increased or decreased by the PBX while receiving CLIP information.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog)*
– *CLIP service attribute enabled with the network provider (telephone number display)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Expert configuration**.
4. In the **Amplification** list field under **CLIP**, select one of the following options:

   -12 dB to **-1 dB**: While receiving CLIP information, the PBX reduces all audio signals by -12 to -1 decibels.

   0 dB: The PBX does not change the audio signals while receiving CLIP information.

   +1 dB to **+12 dB**: While receiving CLIP information, the PBX increases all audio signals by +1 to +12 decibels.

Further steps:
– *Save your settings before you leave the page.*

Configuring Control Commands

The control commands indicate which digit sequences the analog network provider needs to carry out a service attribute on the analog connection. If a service attribute is requested on an ISDN subscriber of the PBX (e.g., a system telephone), the PBX automatically converts it into the digit sequences required by the analog network provider.

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.

3. Open the page **Analogue connection > Expert configuration**.

4. In the entry fields under **Control commands**, use the keypad to enter the digit sequence required by the network provider. The following entries are possible:

   Digits and the characters * and #

   The 'n' character as a placeholder for the telephone number

   The comma ',' character as a pause of one second

   The 'R' character as a placeholder for a flash

Further steps:
– *Save your settings before you leave the page.*

Configuring Tones

The tones indicate how tones should be transmitted from the analog network provider. This allows the PBX to detect the tones and implement them accordingly. The following tones are transmitted by the network provider:

- **Dial tone**: The tone that is transmitted by the network provider when the subscriber picks up the receiver.
- **Busy tone**: The tone that is transmitted by the network provider when the desired connection is busy (busy tone 1) or the network is overloaded (busy tone 2, e.g., directly after dialling the local area code).
- **Call tone**: The tone that is transmitted by the network provider during the calling phase.
- **Special interest tone**: The tone that is transmitted by the network provider when the telephone number dialled is not present and the network provider plays no special announcement for this situation.

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.

2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.

3. Open the page **Analogue connection > Expert configuration**.

4. In the entry fields under **Tones**, enter the values that you received from the network provider. The following entries are possible:

   Digits and characters

Note:

The tones should only be changed after discussing this with Support.

An incorrect entry can cause malfunctions on the PBX.

Further steps:
– *Save your settings before you leave the page.*

Configuring the Ringer Frequency

The ringer frequency indicates the frequency the ring signal is transmitted by the analog network provider.

Note: In German PBX models, the ringer frequency is specified at 25 Hz.

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.

2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.

3. Open the page **Analogue connection > Expert configuration**.

4. In the **Frequency** list field under **Ring signal**, select the desired option.

Further steps:
– *Save your settings before you leave the page.*

ISDN Connection

The COMpact 3000 ISDN provides an external S_0 port on both the German and international PBX models.

Also the optionally available COMpact ISDN module provides an external S_0 port.

The connection type that the network provider has provided on the NT needs to be configured for this external S_0 port.

Configuring the Connection Type for the ISDN Connection

The connection type that the network provider has provided for the NT needs to be configured for the external S_0 port.

The external S_0 port can be operated in the following connection types:

- **Point-to-Multipoint connection**: ISDN point-to-multipoint connection (PTMP) with up to ten multiple subscriber numbers (MSNs).
- **Point-to-Point connection**: ISDN point-to-point connection (PTP) with a PBX base number and up to ten extension numbers (DDIs).

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the ISDN connection in question.

   A page opens for configuring the ISDN connection.
3. Open the page **ISDN connection > Kind of connection**.

Note: The configuration is also provided during the quick configuration using the configuration wizard.

4. Select one of the following options:

   Point-to-Multipoint connection: ISDN Point-to-Multipoint connection (PTMP)

   PBX connection: ISDN Point-to-Point connection (PTP)

Further steps:
– *Save your settings before you leave the page.*

Switching S_0 Bus Monitoring On/Off

If S_0 bus monitoring is enabled, a continuous activation of the shift 1 for the separate external S_0 busses is possible.

The PBX checks whether the shift 1 from the network provider activated is or idle. When a function is enabled, the activation of this shift is requested as soon as the shift 1 from the network provider is put into idle mode.

Note: The S_0 bus monitoring prevents, e.g., delay times before the external dial tone indicates operational readiness.

If this function, e.g., causes too many problems for exchange lines outside of Germany, it can be disabled.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*
– *Configuration manager, opened with sufficient authorization*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the ISDN connection in question.

   A page opens for configuring the ISDN connection.

3. Open the page **ISDN connection > Kind of connection**.
4. Select or clear the **S0 bus monitoring** check box.
   - ☑ Enables S_0 bus monitoring.
   - ☐ Disables S_0 bus monitoring.

Further steps:
– *Save your settings before you leave the page.*

Entering the Name for the ISDN Connection

The name of the connection is used for identification purposes. For example, it is shown on the display of the internal subscriber for incoming external calls (alpha-numeric CLIP-capable or ISDN subscribers).

The entry can be made as follows:

- Via the configuration manager

Requirements:
– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*
– *Configuration manager, opened with sufficient authorization*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the ISDN connection in question.

   A page opens for configuring the ISDN connection.
3. Open the page **ISDN connection > Name and functions**.
4. In the **Name of the connection** entry field, enter the desired name. The following entries are possible:

   Up to 16 digits

   Digits and characters

Further steps:
– *Save your settings before you leave the page.*

Entering Telephone Numbers for the ISDN Point-to-Multipoint Connection

The multiple subscriber number indicates which digit sequence a caller must dial from the local telephone network in order to establish the ISDN point-to-multipoint connection.

The point-to-multipoint connection has up to ten multiple subscriber numbers. The telephone numbers were allocated by the network provider for the connection.

> **Note:** In general, 10 multiple subscriber numbers (MSNs) can be configured for a point-to-multipoint connection. The maximum number of telephone numbers (DDIs/MSNs) to be configured for the whole PBX is limited to 32. If more than three connections (ISDN, analog and VoIP accounts) are configured, it is not possibe to configure 10 telephone numbers (DDIs/MSNs) for each connection.

The entry can be made as follows:

- Via the configuration manager

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option) in the connection type point-to-multipoint connection*
– *Configuration manager, opened with sufficient authorization*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the ISDN connection in question.

   A page opens for configuring the ISDN connection.
3. Open the page **ISDN connection > Telephone numbers**.

   > **Note:** The entry is also provided during the quick configuration using the configuration wizard.

4. In the **From** entry field under **Multiple subscriber number (MSN)**, enter the digit sequence you received from your computer network provider. The following entries are possible:

   Up to 20 digits

   Digits

5. In the entry field **Name**, enter a name for the telephone number. The following entries are possible:

   Up to 16 digits

   Digits and characters

   Note: The name is used for display purposes on the system telephone.

6. Click .

7. Repeat step 2 to 4 to enter additional telephone numbers.

Further steps:
– *Save your settings before you leave the page.*

Entering Telephone Numbers for the ISDN Point-to-Point Connection

The PBX base number with the following extension or global call number indicates which digit sequence a caller needs to dial from the local telephone network to establish the ISDN point-to-point connection.

The point-to-point connection has a PBX base number and up to ten extension numbers (including the global call number). The telephone numbers were allocated by the network provider for the connection.

Note: In general, 10 extension numbers (DDIs) can be configured for a point-to-point connection. The maximum number of telephone numbers (DDIs/MSNs) to be configured for the whole PBX is limited to 32. If more than three connections (ISDN, analog and VoIP accounts) are configured, it is not possibe to configure 10 telephone numbers (DDIs/MSNs) for each connection.

The entry can be made as follows:

- Via the configuration manager

Requirements:
– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option) in the connection type point-to-point connection*
– *Configuration manager, opened with sufficient authorization*

– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the ISDN connection in question.

   A page opens for configuring the ISDN connection.
3. Open the page **ISDN connection > Telephone numbers**.

   Note: The entry is also provided during the quick configuration using the configuration wizard.

   ---
4. In the **PBX base number** entry field, enter the PBX base number (serial, head, basis telephone number) that belongs to the connected network termination unit according to the order confirmation of the network provider.

   Up to 20 digits

   Digits
5. In the **From** entry field under **Direct dialling in (DDI)**, enter the digit sequence you received from your computer network provider. The following entries are possible:

   Up to 4 digits

   Digits
6. In the entry field **Name**, enter a name for the telephone number. The following entries are possible:

   Up to 16 digits

   Digits and characters

   Note: The name is used for display purposes on the system telephone.

   ---
7. Click .
8. Repeat step 3 to 5 to enter additional telephone numbers.

Further steps:
– *Save your settings before you leave the page.*

Overview of External Telephone Numbers

The overview shows all of the previously created external telephone numbers with names.

Note:

The overview can be opened in the configuration manager by selecting **External phone numbers** in the list field next to and then clicking . To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

VoIP

In Internet telephony (VoIP, Voice over Internet Protocol), an Internet connection (for example, DSL) is used for telephoning instead of an analogue or ISDN line. In this case, digital voice data is sent as IP packets from one telephone to another. This functions the same way as the transmission of a webpage over the Internet.

The transmission quality and the reliability of Voice over IP depends to a great extent on the quality of the Internet connection used.

Configuring VoIP Channel Use

Configure how many currently existing external and internal VoIP channels are to be used.

> **Note:**
>
> A COMpact 3000 has two VoIP channels that can be purchased and activated in the Upgrade Center in both the German and the international PBX models. Each VoIP channel can be configured as internal or external.
>
> The COMpact 3000 VoIP provides two additional VoIP channels in the basic model; one of these channels can be configured as a permanent external VoIP channel.

Configuration can be carried out as follows:

- Via the configuration manager

Requirements:

– *VoIP channels (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > Settings**.

   > **Note:** Configuration is also offered in the configuration wizard during quick setup.

   The available VoIP channels (**Available VoIP channels**) are displayed under **Distribution of the VoIP channels**.

2. Move the **External/internal** slider under **Usage**. The following directions are possible:

   Left: The number of external VoIP channels is increased; at the same time, the number of internal channels is reduced accordingly.

   Right: The number of internal VoIP channels is increased; at the same time, the number of external channels is reduced accordingly.

Further steps:
– *Save your settings before you leave the page.*

Sequence of an External Call via VoIP

An outgoing external call via VoIP is made as follows:

- An internal subscriber dials an external telephone number.
- The PBX checks whether the provider area code has been entered in the list of exception telephone numbers (VoIP/GSM routing). If the telephone number is in the table, the access configured there is used (if the telephone number has been enabled for the currently valid configuration).

  Note: The special numbers provided by the VoIP provider for checking one's account status or dialling usually do not include a local prefix. This means that routing via exception telephone numbers (VoIP/GSM routing) is not possible. In order to correctly dial these telephone numbers, use the targeted VoIP access point.

- If the telephone number is not on the list of exception telephone numbers (VoIP/GSM routing) or it is not enabled for the currently valid configuration, a check is made whether a preferred exchange line has been configured.
- Only for the COMpact 3000 ISDN or COMpact 3000 analog: If no preferred exchange line has been configured or the preferred exchange line is a land line connection, the telephone number is checked based on the LCR networks (if LCR is configured and activated) and then dialled on a land line connection.

  Note: For all DSL connections that are not made over a dedicated line, the VoIP provider resets the DSL line at least once within 24 hours. This terminates calls currently in progress.

Configuring External Internet Telephony

Requirements:

– *VoIP channels (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*
– *An account with a VoIP provider*
– *Configured internal subscribers*

Configure the PBX as follows:

1. Configure at least one VoIP channel as an external VoIP channel.
2. Make sure you have current VoIP provider information:
   - Check previously configured provider information.
   - Download and import data from the Internet.
   - Enter data manually:

     Provider information

     Network information

     Codec selection

     Number presentation (outgoing)

     Conversion for incoming VoIP telephone numbers
3. Configure the DNS server and, if necessary, also an HTTP proxy server.
4. Create at least one VoIP account in the PBX and enter the account and access data.
5. Enter the country prefix and local area code.
6. Enter your own VoIP telephone numbers.
7. Set up call distribution (for incoming calls).
8. If necessary, enable DiffServ in order to increase VoIP call quality.
9. Check whether the registration of the VoIP account was successful (overview for **Status VoIP accounts**).

Note: If no calls are possible via VoIP, although account registration and perhaps even an initial call were successful, this might have something to do with a very short timeout configured in the firewall. Reduce the **Interval** for

NAT Keep Alive for all of the providers used (**CONFIGURATION > Voice over IP (VoIP) > VoIP provider** > > **Provider configuration > Network**).

Configuring Internal IP Telephony

Requirements:

– *VoIP channels (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*

Configure the PBX as follows:

1. Configure a VoIP channel as an internal VoIP channel for each internal VoIP subscriber planned.
2. Create internal telephone numbers for the VoIP subscribers (a maximum of two VoIP subscribers is recommended).
3. If necessary, assign user PINs for the VoIP subscribers (recommended). These PINs are required for authenticating the VoIP telephones when they are registered on the PBX.

   Note: Do not use dates of birth or dates as PINs. This makes it easy for an attacker to find out the correct PIN. PINs which are easy to guess, such as 111111 or 123456, should also be avoided.

4. Configure the VoIP equipment. To do this, you need the following information:

   IP address or URL of the PBX

   Internal number of the VoIP subscriber

   The user PIN of the VoIP subscriber, if necessary

   Note: Advice for configuring different VoIP telephones is provided on the service portal at the Auerswald web site under **FAQs** (Internet address: www.auerswald.de).

5. Check whether the VoIP subscriber was successfully registered on the PBX (overview for **Status internal VoIP subscribers**).
6. If necessary, enable DiffServ in order to increase VoIP call quality.

Configuring External Private Branch Exchanges

In order to operate a VoIP telephone as an external private branch exchange, it must either be connected to the network via a VPN tunnel or the telephone and the PBX must establish the connection via a publicly accessible STUN server on the Internet and a DynDNS service as described in the following.

Note:

Each port forwarding constitutes a security risk. You should use as few forwarding configurations as possible.

Note that when using an external private branch exchange, emergency calls can only be traced backed to the location of the connection used (localization). Localization is necessary if the caller is no longer able to give his name and address. Therefore, for emergency calls from an external private branch exchange, a mobile telephone or a telephone connected to the public switched network is required.

For security reasons, the connection of external private branch exchanges by means of a VPN tunnel should be preferred.

Important: As a protection measure against the access by third parties, regularly check the call data recording of your PBX and the LOGs of your NAT router for inconsistencies.

Requirements:

– *VoIP channels (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*
– *Portforwarding configured on router*

Configure the PBX as follows if at least one external private branch exchange is not coupled over a VPN tunnel:

1. Configure a VoIP channel as an internal VoIP channel for each external private branch exchange planned.

2. Create the internal telephone numbers for the external private branch exchanges (a maximum of two VoIP subscribers is recommended).

3. If necessary, assign user PINs for the external private branch exchanges (recommended). These PINs are required for authenticating the VoIP telephones when they are registered on the PBX.

4. In dependence on the telephone tariffs, restrict the exchange line authorization for external private branch exchanges (e.g.“National”). At times of the day when phone calls are usually not made, e.g. in the night or outside of business hours, it is possible to restrict the exchange line authorization to a minimum (under **PROPERTIES > Internal subscribers > Subscriber properties > Exchange line settings**).

5. Configure a call restrictor (e.g. for added value services or mobile radiocommunications networks – 0900, 0180, 01…) and assign it to the external private branch exchanges (under **PROPERTIES > Internal subscribers > Subscriber properties > Exchange line settings**).

6. Configure the STUN server for connecting external VoIP subscribers.

7. Configure the external private branch exchanges. To do this, you need the following information:

   The external IP address or URL of the PBX (as registrar and domain)

   The internal number of the VoIP subscribers (as MSN or user name)

   If necessary, the user PIN of the VoIP subscriber (as registration PIN or password)

   STUN server (the same as in Step 6)

   Note: If the Internet connection on the PBX does not have a permanent IP address, an account with a provider for dynamic DNS is also required (e.g., dyndns.org). Enter the associated URL in the VoIP telephone as registrar and domain (e.g., pbx.dyndns.org).

   ---

8. Check whether the VoIP subscriber was successfully registered on the PBX (overview for **Status internal VoIP subscribers**).

9. If necessary, enable DiffServ in order to increase VoIP call quality.

Configuring the STUN Server for Operation as an External Private Branch Exchange

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Support for public DNS mapping by the router on the PBX network*
– *Rerouting of port 5060 to the IP address of the PBX in the router*
– *Configuration manager, opened with sufficient authorization*
– *A configured DNS server and, if necessary, an HTTP proxy server*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > Settings**.
2. Select or clear the **STUN server** check box under **Connection to external VoIP subscriber**.
   - ☑ Enables the STUN server.
   - ☐ Disables the STUN server. (No other action is required.)
3. Enter the STUN server in the **IP address or URL** entry field under **Connection to external VoIP subscriber**. The following entries are possible:

   IP address with a range of 0 to 255 (example: 103.103.103.103)

   URL (example: www.stunserver.de)
4. Enter the associated port number (port) in the **Port** entry field under **Connection to external VoIP subscriber**. The following entries are possible:

   1 to **65535**

Further steps:

– *Save your settings before you leave the page.*

Internal VoIP Subscriber Status Overview

The column **Status** on the page **CONFIGURATION > Internal numbers > VoIP subscribers** shows you whether the registration of a VoIP subscriber was successful. The overview of the internal VoIP subscriber status gives you a more detailed view.

The status of the VoIP subscriber is indicated by a colored dot.

Gray	No registration has been carried out.
Green	Registration of the VoIP subscriber was successful.
Red	An error occurred during registration and registration failed. An error message is also displayed.

Note:

The overview can be opened in the configuration manager by selecting **Status internal VoIP subscribers** in the list field next to and then clicking . To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

The overview shows the status after a page request. It is not updated automatically.

Switching DiffServ On/Off

In order to give voice packets (VoIP) priority and to achieve better speech quality during VoIP calls, DiffServ can be used. DiffServ can be evaluated in networks by active network components such as routers or switches in order to forward the packets according to the priority.

Note: Normally, DiffServ is not supported by VoIP providers. This means that on the Internet, this setting may not be taken into consideration under certain circumstances.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > Settings**.
2. Select or clear the **DiffServ** check box under **Quality of Service (QoS)**.
   - ☑ Enables DiffServ.
   - ☐ Disables DiffServ.

Further steps:

– *Save your settings before you leave the page.*

VoIP Provider

A VoIP provider is an internet service provider offering internet telephony (VoIP, Voice over Internet Protocol).

There are already numerous providers which issue each customer their own telephone number, which can be called not only over the Internet but also via a public switched network. Depending on the provider used and the number called, these types of telephone connections are extremely reasonable if not free of charge.

Some providers give the impression that Internet telephony is totally free of charge. However, it is important to research the actual costs incurred by taking the tariff tables of the respective provider. As the connection to a public switched network is established over a gateway, the location of the gateway may affect any charges associated with the call. This applies especially to international calls that may be more expensive than simple calls on a public switched network if the gateway is located domestically.

Restoring Default Providers

Several providers are pre-configured in the default settings in the PBX. If you have deleted these settings, you can restore them.

> **Note:** The data from still existing default providers is not overwritten. If you have changed the settings for the default providers and would like to restore the default settings, first delete the provider in question.

Restoration can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click **Default providers**.

   The default providers are restored.

Further steps:

– *If necessary, change the standard settings according to the data provided by your VoIP provider.*

Importing VoIP Providers

The VoIP provider data can be imported from a file (*.ft). The corresponding files containing current access data for VoIP providers can be downloaded from the Internet.

The import can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Access data for the VoIP provider (*.ft) saved on a data storage medium (PC)*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click **Browse** (this text is dependent on the operating system used).

   A file selection dialog opens.
3. Select the file to be imported and click **Open** (this text is dependent on the operating system used).
4. Click **Import**.

   The access data is saved in the PBX.

Note:

The data of the import file is added to the existing list of providers, without verification whether a provider is already contained in the list (double entries).

If importing the data would cause the number of providers to exceed the maximum number of 10 entries, the import is not carried out and an error message is displayed.

Further steps:

– *If necessary, change the standard settings according to the data provided by your VoIP provider.*

Creating a VoIP provider

Six VoIP providers are already pre-configured in the factory settings. A total of up to ten VoIP providers can be created.

Creation can be carried out as follows:

- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Enter the name of the VoIP provider in the first available **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters
3. Click .
4. Click in the line of the corresponding VoIP provider.

   The page **Provider configuration > Provider** opens, and under **Provider name**, the assigned name is displayed.

Further steps:

– *Configure addition settings on the **Provider configuration** page.*

> **Note:** The data required for the settings on the **Provider configuration** page are provided directly by the VoIP-provider or can be found in corresponding lists in the Internet.

– *Save your settings before you leave the page.*

Switching Sub-system Operation On/Off

If sub-system operation is enabled, the COMpact 3000 can be used as a sub-system for the PBX the VoIP provider has been configured for.

> **Note:** In sub-system operation problems might occur with overlap sending. In this case you can enable **En-bloc dialling**.

Switching this on/off can be done as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click in the line of the corresponding VoIP provider.

   It opens the page **Provider configuration > Provider**.
3. Select or clear the **Sub-system operation** check box.
   - ☑ Enables sub-system operation.
   - ☐ Disables sub-system operation.

Further steps:

– *Save your settings before you leave the page.*

Configuring a Domain

The domain (also realm, SIP domain or SIP realm) is required for the VoIP address. The VoIP address of a subscriber is structured similarly to an e-mail address. It is made up of the VoIP telephone number and the domain, separated by the @ character: <subscriber>@domain.

Configuration can be carried out as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*
– *Configuration manager, opened with sufficient authorization*
– *A configured DNS server and, if necessary, an HTTP proxy server*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click in the line of the corresponding VoIP provider.

   It opens the page **Provider configuration > Provider**.
3. Enter the domain in the **Domain** entry field under **Server**.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Registrar

REGISTER requests are sent to the registrar (also SIP registrar, registry, SIP server, SIP registry server).

Configuration can be carried out as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*
– *Configuration manager, opened with sufficient authorization*
– *A configured DNS server and, if necessary, an HTTP proxy server*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click in the line of the corresponding VoIP provider.

   It opens the page **Provider configuration > Provider**.
3. In the **Registrar** entry field under **Server**, enter the registrar.

Further steps:

– *Save your settings before you leave the page.*

Configuring Registration Time

The registration time indicates after how many minutes the PBX reregisters itself with the VoIP provider.

Configuration can be carried out as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click in the line of the corresponding VoIP provider.

   It opens the page **Provider configuration > Provider**.
3. Enter a value in the **Time lapse for the registration** entry field under **Server**. The following entries are possible:

   1 to **60**: The PBX registers with the VoIP provider after 1 to 60 minutes.

Note: In the test phase after configuring the VoIP provider, it is recommended that a small value be entered (e.g., three minutes). After completing the test phase, a significantly greater value can be selected.

Further steps:

– *Save your settings before you leave the page.*

Configuring NAT Traversal and the STUN Server

NAT (Network Address Translation) permits the mapping of a specific IP address used within a network (e.g. a Local Area Network, LAN) to another IP address used by another network (e.g. public-switched network, PSTN). If a request is sent from the local IP address into the public-switched network with NAT traversal enabled, the transferring IP address will be exchanged by the public IP address. For the reply, this function will be performed in reverse direction.

A STUN server provides information on request to subscribers on a private network. This information includes the IP address and port outside of their private network that is viewed as the source of their data. This information is entered in the request, instead of the actual private IP address/port.

Configuration can be carried out as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*

– *Configuration manager, opened with sufficient authorization*

– *A configured DNS server and, if necessary, an HTTP proxy server*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click in the line of the corresponding VoIP provider.

   It opens the page **Provider configuration > Provider**.
3. Under **SIP**, select one of the following options:

   deactivated: NAT traversal is not performed by the PBX. The router, which connects the Local Area Network with the Internet, should be a well-functioning, SIP-aware router which performs NAT traversal.

   activated with usage of STUN: NAT traversal is performed by the PBX. For this purpose, a STUN server must be entered additionally (see step 5 to 7).

   activated: NAT traversal is performed by the PBX. The SIP request additionally contains the part **rport**, in which the IP addresses used (local, public) are transported.

   Note: When selected **activated**: If there are problems with unilateral call connections, a STUN server should be used (see **activated with usage of STUN**).

   ---
4. Under **RTP**, select one of the following options:

   deactivated: NAT traversal is not performed by the PBX. The router, which connects the Local Area Network with the Internet, should be a well-functioning, SIP-aware router which performs NAT traversal.

   activated with usage of STUN: NAT traversal is performed by the PBX. For this purpose, a STUN server must be entered additionally (see step 5 to 7).

5. Enter the STUN server in the **IP address or URL** entry field under **STUN server/NAT traversal**. The following entries are possible:

   IP address with a range of 0 to 255 (example: 103.103.103.103)

   URL (example: www.stunserver.de)

6. Enter the associated port number (Port) in the **Port** entry field under **STUN server/ NAT traversal**. The following entries are possible:

   1 to **65535**

7. Enter a value in the **Interval for STUN server query** entry field under **STUN server/ NAT traversal**. The following entries are possible:

   1 to **60**: A STUN server query takes place every 1 to 60 minutes.

Further steps:
– *Save your settings before you leave the page.*

Configuring the Outbound Proxy

The outbound proxy is an intermediate server that processes all VoIP requests and connections going to the provider (except for registration).

Configuration can be carried out as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:
– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*
– *Configuration manager, opened with sufficient authorization*
– *A configured DNS server and, if necessary, an HTTP proxy server*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.

2. Click in the line of the corresponding VoIP provider.

   It opens the page **Provider configuration > Provider**.

3. Under **Outbound proxy**, select one of the following options:

deactivated: Disables the outbound proxy. (No other action is required.)

automatically: Automatically determines an outbound proxy. (No other action is required.)

manual: Enables the entry of an outbound proxy.

4. Enter the outbound proxy in the **IP address or URL** entry field under **Outbound proxy**. The following entries are possible:

   IP address with a range of 0 to 255 (example: 123.123.123.123)

   URL (example: www.outboundproxy.de)

5. Enter the associated port number (Port) in the **Port** entry field under **Outbound proxy**. The following entries are possible:

   1 to **65535**

Note: The port 5060 is configured in the factory settings.

Further steps:
– *Save your settings before you leave the page.*

Configuring the Interval for NAT Keep Alive

The interval for NAT Keep Alive indicates after how many seconds NAT Keep Alive packets are sent to maintain the NAT mapping in the firewall.

Configuration can be carried out as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:
– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click in the line of the corresponding VoIP provider.

   The **Provider configuration** opens.

3. Open the page **Provider configuration > Network**.
4. Select or clear the **NAT Keep Alive** check box.
   ☑ Enables NAT Keep Alive.
   ☐ Disables NAT Keep Alive. (No other action is required.)
5. Enter a value in the **Interval** entry field under **NAT Keep Alive**. The following entries are possible:

   1 to **255**: NAT Keep Alive packets are sent every 1 to 255 second.

Further steps:
– *Save your settings before you leave the page.*

Configuring the SIP Transport Protocol

The SIP transport protocol indicates which protocol is used for the SIP transfer.

Configuration can be carried out as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:
– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click in the line of the corresponding VoIP provider.

   The **Provider configuration** opens.
3. Open the page **Provider configuration > Network**.
4. Under **SIP transport protocol**, select one of the following options:

   UDP: Selects UDP as the SIP transport protocol.

   TCP: Selects TCP as the SIP transport protocol.

Further steps:
– *Save your settings before you leave the page.*

Configuring the SIP Port

The SIP Port is a port on the local system that is used as a starting point for the SIP transfer.

Configuration can be carried out as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click in the line of the corresponding VoIP provider.

   The **Provider configuration** opens.
3. Open the page **Provider configuration > Network**.
4. Enter the SIP port in the **SIP port** entry field under **SIP**. The following entries are possible:

   1 to **65535**

Note: There must be a different SIP port entered for each VoIP provider configured.

Further steps:

– *Save your settings before you leave the page.*

Configuring the SIP Session Timer

The PBX cannot detect whether a call connection is disrupted due to problems on the provider side. The SIP session timer regularly checks whether the connection still exists.

Configuration can be carried out as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click in the line of the corresponding VoIP provider.

   The **Provider configuration** opens.
3. Open the page **Provider configuration > Network**.
4. Select or clear the **SIP session timer** check box under **SIP**.

   ☑ Enables the SIP session timer.

   ☐ Disables the SIP session timer. (No other action is required.)
5. Enter a value in the **Interval for SIP session timer** entry field under **SIP**. The following entries are possible:

   5 to **60**: The SIP session timer checks every 5 to 60 minutes to see whether a connection still exists.

Note: When the SIP session timer is enabled, an increased number of disrupted calls may occur after the interval configured if a VoIP provider has not implemented session renewal properly. In this case, you should disable the SIP session timer.

Further steps:

– *Save your settings before you leave the page.*

Switching En-bloc Dialling On/Off

If, for example, problems occur in sub-system operation with overlap sending, en- bloc dialling can permanently be enabled. The digits dialled are transferred en-bloc to the provider in order to establish a connection after the delay time after last digit dialled.

The delay time after last digit dialled is the amount of time until the PBX detects the end of dialling. The time measurement restarts after each digit entered. After the configured time has passed, the PBX detects the digit just dialled as the last digit and allows no further entry..

Switching this on/off can be done as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click in the line of the corresponding VoIP provider.

   It opens the page **Provider configuration > Provider**.
3. Open the page **Provider configuration > Network**.
4. Select or clear the **Only en-bloc dialling** check box under **SIP**.

   ☑ Enables en-bloc dialling.

   ☐ Disables en-bloc dialling. (No other action is required.)
5. In the **Delay time after last digit dialled** entry field under **SIP**, enter a value. The following entries are possible:

   3 to **15**: After 3 to 15 seconds of no dialling of a digit, the PBX detects the end of dialling.

Note:

Since the PBX does not pass on the last digit to the central office until after the configured time has elapsed, select a time that is as short as possible.

Approximately 3 seconds is a good default value for manual entries.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Jitter Buffer Value

The size of the jitter buffer indicates how many RTP packets can be cached in order to buffer disruptions or to compensate for them.

Configuration can be carried out as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click in the line of the corresponding VoIP provider.

   The **Provider configuration** opens.
3. Open the page **Provider configuration > Network**.
4. Enter a value in the **Jitter buffer** entry field under **Quality**. The following entries are possible:

   40 to **160**: The size of the jitter buffer in milliseconds (duration of the audio signals).

   Lower values: A lower number of RTP packets can be cached in order to buffer disruptions or to compensate for them.

   Greater values: A greater number of RTP packets can be cached in order to buffer disruptions or to compensate for them.

Further steps:

– *Save your settings before you leave the page.*

Switching Echo Cancellation On/Off

If echo cancellation is enabled, local echos and Hall effects are compensated.

Switching this on/off can be done as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click in the line of the corresponding VoIP provider.

   The **Provider configuration** opens.
3. Open the page **Provider configuration > Network**.
4. Select or clear the **Echo cancellation** check box under **Quality**.

   ☑ Enables echo cancellation.

   ☐ Disables echo cancellation.

Further steps:

– *Save your settings before you leave the page.*

Switching T.38 for Fax over IP On/Off

Enabling T.38 (procedures for real-time Group 3 facsimile communication over IP networks) makes smooth fax transmission possible.

Switching this on/off can be done as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*
– *Provider support for T.38*
– *Configuration manager, opened with sufficient authorization*
– *Configured internal fax subscribers*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click in the line of the corresponding VoIP provider.

The **Provider configuration** opens.

3. Open the page **Provider configuration > T.38 and Codec**.

4. Select or clear the **Support T.38 for providers** check box.

   ☑ Enables fax transmission via T.38 for the provider.

   ☐ Disables fax transmission via T.38 for the provider.

   Note: If any problems occur when T.38 is enabled, change the setting for the negotiation of the fax protocol (**T.38 negotiation**) (see step 5).

5. In the **T.38 negotiation** list field, select one of the following options:

   Compliant to RFC: two separate medialines for automatic deactivation and negotiation of the fax protocol.

   Variant 1: only one medialine for negotiation of the fax protocol (medialine for automatic deactivation is omitted).

Further steps:
– Save your settings before you leave the page.

Configuring Codecs

The PBX provides various codecs. Codec selection affects the quality of a VoIP call. Depending on the connection bandwidth, codecs with the best possible VoIP call quality down to codecs with high compression (low bandwidth) can be configured.

The codec actually used for a call is not specified until the codec is negotiated with the VoIP provider.

Note:

If using a codec with high bandwidth (e.g., G.711) produces too much interference in the call quality, it is possible that the connection bandwidth is not sufficient. If disturbances occur often, it is a good idea to only select codecs with lower bandwidth in the priority list (**Sequence for Codec negotiation**).

Not every codec is supported by every provider.

Configuration can be carried out as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click in the line of the corresponding VoIP provider.

   The **Provider configuration** opens.
3. Open the page **Provider configuration > T.38 and Codec**.

   The available codecs are displayed under **Codecs**. The pre-configured priority list is displayed under **Sequence for Codec negotiation** .
4. Click one of the following buttons, if necessary:

   Best available quality: Select a codec sequence with the best available VoIP call quality (high bandwidth) as the highest priority.

   Good compromise: Select a compromise between VoIP call quality (high bandwidth) and compression (low bandwidth) for the codec sequence.

   Best possible compression: Select a codec sequence with high compression (low bandwidth) as the highest priority.
5. Add or remove an available code, as needed in the **Sequence for Codec negotiation**.

   Adds the codec highlighted under **Available Codecs** to the end of the priority list (**Sequence for Codec negotiation**).

   Removes the highlighted codec from the **Sequence for Codec negotiation**. This codec is then displayed under **Available Codecs** .
6. If necessary, change the **Sequence for Codec negotiation**.

   Moves the highlighted codec one position upwards.

   Moves the highlighted codec one position downward.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Number Presentation (Outgoing)

In order for the PBX to transmit the data (e.g., dialled telephone numbers, transmitted telephone numbers) in the correct format to the VoIP provider, the following settings must be configured:

- **Format of the dialled telephone number**: Format in which the VoIP provider requires the telephone number of the receiver in order to transfer the call.

  Note: The PBX automatically converts the telephone numbers dialled into this format for calls made over the VoIP provider When dialling without an area code, the prefix of the location is used (**CONFIGURATION > External numbers > Location**).

- **Type of line identification presentation**: The range in which the VoIP provider expects the telephone number transmitted by the PBX.
- **Format of transferred telephone number**: Format in which the VoIP provider requires the telephone number that should be transmitted.

  Note:

  The PBX checks whether and which of the telephone numbers entered should be transmitted (**CONFIGURATION > Telephone number presentation**).

  The telephone number transmitted is automatically converted into the selected format. If your own telephone numbers have been entered into the PBX without area codes, the local area codes are used during conversion (**CONFIGURATION > External numbers > Location**).

- **Number presentation suppression**: Telephone number suppression/restriction by the provider with or without display text.

  Note: When number presentation suppression by the provider is enabled, the flag "Privacy: User" set in the SIP header.

Configuration can be carried out as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*
– *Configuration manager, opened with sufficient authorization*
– *Configured external telephone numbers*
– *Number presentation suppression: Support of the service attribute number presentation suppression by the VoIP provider*
– *Number presentation suppression:* ***Number presentation suppression*** *enabled for the subscriber*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click in the line of the corresponding VoIP provider.

   The **Provider configuration** opens.
3. Open the page **Provider configuration > Number presentation (outgoing)**.
4. Under **Format of the dialled telephone number**, select one of the following options:

   country code with leading zeroes: The telephone number of the receiver is transmitted from the PBX along with the entire country prefix (e.g., 0049) to the VoIP provider.

   country code with leading + sign: The telephone number of the receiver is transmitted from the PBX along with the entire country prefix in the same format used in mobile phone telephone books (e.g., +49) to the VoIP provider.

   country code without leading zeroes: The telephone number of the receiver is transmitted from the PBX along with a shortened country prefix (without the international prefix (digit), e.g., 49) to the VoIP provider.

   without country code: The telephone number of the receiver is transmitted from the PBX to the VoIP provider without the country prefix.

   without country and local area code: The telephone number of the receiver is transmitted from the PBX to the VoIP provider without the country prefix and the local area code.
5. Under **Type of line identification presentation**, select one of the following options:

   in the display text: Your own external telephone number that is to be transmitted to the receiver is transmitted to the VoIP provide in the "display text" area.

   in the user name: Your own external telephone number that is to be transmitted to the receiver is transmitted to the VoIP provider in the "user name" area.

in the user name + display text: Your own external telephone number that is to be transmitted to the receiver is transmitted to the VoIP provider in the "display test" and "user name" areas.

in the P-Preferred-Identity: Your own external telephone number that is to be transmitted to the receiver is transmitted in the "P-Preferred-Identity" area to the VoIP provider.

6. Under **Format of transferred telephone number**, select one of the following options:

   country code with leading zeroes: Your own external telephone number that is to be transmitted to the receiver is transmitted to the VoIP provider along with the entire country prefix (e.g., 0049).

   country code with leading + sign: Your own external telephone number that is to be transmitted to the receiver is transmitted to the VoIP provider along with the entire country prefix and in the mobile phone telephone book format (e.g., +49).

   country code without leading zeroes: Your own external telephone number that is to be transmitted to the receiver is transmitted to the VoIP provider with the shortened country code (without the international prefix (digit), e.g., 49).

   without country code: Your own external telephone number that is to be transmitted to the receiver is transmitted to the VoIP provider without the country prefix.

7. Under **Display text for number suppression**, select one of the following options:

   no display text: No display text for enabled telephone number suppression is transmitted from the VoIP provider to the receiver.

   anonymous/anon.: The display text "anonymous/anon." is transmitted from the VoIP provider to the receiver when telephone number suppression is enabled.

8. Select or clear the **By provider ("Privacy: User" Set)** check box.

   ☑ The VoIP provider transmits no telephone number to the receiver.

   ☐ The VoIP provider transmits the telephone number obtained from the PBX to the receiver.

Further steps:

– Save your settings before you leave the page.

Configuring the Conversion of Incoming VoIP Telephone Numbers

In order for telephone numbers for incoming VoIP calls listed in the call data list to be used for callbacks, they usually need to be converted. The following rules are used for this:

- **Delete @ and the characters to the right of it**: Deletes the @ character and the characters to the right of the @. Example: The number 4953069200700@24515623478.de becomes 4953069200700 after this rule is applied.
- **Delete non-numeric characters**: Deletes all non-numeric characters. Example: The address 05306unknown@sipgate.de becomes 05306 after this rule is applied.
- **Prefix the number with 00**: Places 00 before the number. Example: The number 4953069200700 becomes 004953069200700 after this rule is applied.
- **Replace the country code at the beginning of the number with 0**: Replaces the country prefix (e.g., 0049) at the beginning of the number with a 0. The country prefix must be entered in the PBX (**CONFIGURATION > External phone numbers > Location**). Example: The number 004953069200700 becomes 053069200700 after this rule is applied.
- **Prefix the number with**: Places 0 before the number. Example: The number 53069200700 becomes 053069200700 after this rule is applied.
- **"unknown" is changed to "number unknown"**: The string 05306unknown is treated as an unknown telephone number in the system when these rules are applied.

Configuration can be carried out as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*
– *Configuration manager, opened with sufficient authorization*

1. Check the format in which the telephone numbers issued by the provider are transmitted and displayed in the call data list (**USER DATA > Call data list**).
2. Determine which rules need to be applied for converting a telephone number and in what sequence so that these telephone numbers can be used for callbacks.
3. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
4. Click in the line of the corresponding VoIP provider.

   The **Provider configuration** opens.

5. Open the page **Provider configuration > Conversion of incoming VoIP telephone numbers**.
6. In the first list field **Rules in sequence of execution**, select the first rule.
7. In the following list field **Rules in sequence of execution**, select the next rule.
8. Repeat Step 7 until all of the required rules are displayed in the desired sequence.

Further steps:
– *Save your settings before you leave the page.*

Exporting VoIP Providers

The list of the VoIP providers can be exported.

The export can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Entries in the provider list*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Click **Export**.

   A dialog for downloading the file "provider.ft" opens.
3. Save the file on the PC.

Deleting VoIP Providers

Deleting can be carried out as follows:

- Separately for VoIP providers
- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Voice over IP (VoIP) > VoIP provider**.
2. Select the check box in front of the entry to be deleted.
   - ☑ Deletes the entry in question.
   - ☐ Does not delete the entry in question.
3. Click 🗑 under **Selected rows**.
4. Click **Next**.

VoIP Account

To receive the necessary access data required for VoIP calls, accounts must first be configured up with one or more VoIP providers. For this purpose, you need to register your name and address with a provider via their web site. Finally, one or more telephone numbers accessible from the public switched network and the Internet as well as an account with a user name and password are allocated. Most of the time, it only takes a few minutes to configure the registered connection which can then be used almost immediately.

Creating a VoIP Account

You can create up to ten accounts in the PBX.

Creation can be carried out as follows:

- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*
– *Configuration manager, opened with sufficient authorization*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the VoIP connection in question.

   A page opens for configuring the VoIP connection.

3. Open the page **VoIP connection > Name and settings**.

Note: Account creation is also offered on the page **CONFIGURATION > Voice over IP (VoIP) > VoIP account** as well as in the configuration wizard during quick setup (only for COMpact 3000 VoIP).

---

4. Click .

5. Enter the desired name in the **Account name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters

Note: During quick setup in the configuration wizard, the account name **VoIP** is automatically allocated to the VoIP account.

---

6. Select the VoIP provider at which the account was configured in the **VoIP provider** list field.

Further steps:
– *Configure the exchange line access number for the account.*
– *Enter the access data that you received from the VoIP provider for the account.*
– *Save your settings before you leave the page.*

Switching VoIP Account Usage On/Off

If VoIP account usage is enabled, it is used for external calls made from the PBX.

Switching this on/off can be done as follows:

- Separately for VoIP accounts
- Via the configuration manager

Requirements:
– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > External numbers**.

2. In the list field at the top, select the VoIP connection in question.

   A page opens for configuring the VoIP connection.

3. Open the page **VoIP connection > Name and settings**.

4. In the list field at the top, select the account in question by its name.

5. Select or clear the **Usage** check box.

   ☑ Enables the VoIP account.

   ☐ Disables the VoIP account.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Exchange Line Access Number (Account Number)

The exchange line access number (account number) is taken from the internal telephone number plan and is used to identify the account within the PBX.

> **Note:** The exchange line access number (account number) is used for the targeted VoIP access point (see Targeted VoIP Access Point).

Configuration can be carried out as follows:

- Separate for VoIP accounts
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > External numbers**.

2. In the list field at the top, select the VoIP connection in question.

   A page opens for configuring the VoIP connection.

3. Open the page **VoIP connection > Name and settings**.

4. Open the page **CONFIGURATION > External phone numbers > VoIP connection > Name and settings**.

5. In the list field at the top, select the account in question by its name.

6. Enter an internal telephone number for the account in the **Exchange line access number (account number)** entry field. The following entries are possible:

   2 to 4 digits in the range of **10** to **9999**

Note:

Double allocation of a number is not possible.

During the initial configuration in the configuration wizard, the exchange line access number (account number) **8000** for the VoIP account is automatically allocated.

The telephone numbers 70, 80, 87, 701-706, 801-806, 875-879 and 8750-8799 cannot be freely allocated. They are required for internal PBX use.

Using telephone numbers with few digits (two or three-digit numbers) inevitably restricts the possible supply of telephone numbers requiring more digits. For example, if the telephone number 12 is assigned, the telephone numbers 120-129 and 1200-1299 are no longer available.

The default exchange line access number on the PBX is "0" in the factory settings; however, this can be changed. Note that changing the exchange line access number restricts the telephone number plan.

Further steps:
– Save your settings before you leave the page.

Configuring a User Name and Password

The user name is allocated during account configuration and is used as identification by the VoIP provider. The password is used to verify the user name.

Note:

Note that some providers allocate both login information for the web page and separate login information for using the Voice over IP service (e.g., a dial-in password). Find out what information is needed for the dial-in and enter it accordingly.

Different providers use different names for the user name and password. The user name can also be called, e.g., username, authorization user, SIP ID/SIP password, and the password may be called the customer password.

When using the provider T-Online, the VoIP telephone numbers obtained from the provider must also be entered under **User Name** and **Name** (**CONFIGURATION > External numbers > VoIP connection > Telephone numbers**).

Configuration can be carried out as follows:

- Separate for VoIP accounts
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the VoIP connection in question.

   A page opens for configuring the VoIP connection.
3. Open the page **VoIP connection > Name and settings**.

   Note: The configuration is also provided during the quick configuration using the configuration wizard.

   ---
4. In the list field at the top, select the account in question by its name.
5. Enter the user name in the **User name** entry field.
6. Enter the password in the **Password** entry field.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Authorization ID

The authorization ID is allocated during account configuration by some VoIP providers and is required to access the VoIP account.

Configuration can be carried out as follows:

- Separately for VoIP accounts
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the VoIP connection in question.

   A page opens for configuring the VoIP connection.
3. Open the page **VoIP connection > Name and settings**.

   Note: The configuration is also provided during the quick configuration using the configuration wizard.
4. In the list field at the top, select the account in question by its name.
5. Enter the authorization ID in the **Authorization ID** entry field.

   Note: You may only enter anything in this field when an authorization ID has been allocated by the VoIP provider.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Connection Type for the VoIP Account

The connection type provided by the VoIP provider must be configured for the VoIP account.

A VoIP account can be operated in the following connection types:

- **Point-to-multipoint connection**: A VoIP account that supports up to ten whole VoIP telephone numbers (multiple subscriber numbers (MSNs)).
- **Point-to-point connection**: A VoIP account that supports a PBX base number (serial, head, basis number) and up to ten extension numbers (DDIs).

Configuration can be carried out as follows:

- Separately for VoIP accounts
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the VoIP connection in question.

   A page opens for configuring the VoIP connection.
3. Open the page **VoIP connection > Kind of connection**.

   Note: The configuration is also offered in the configuration wizard during quick setup.

   ---
4. In the list field at the top, select the account in question by its name.
5. Select one of the following options:

   PTMP connection: VoIP account with multiple subscriber numbers (MSNs)

   PTP connection: VoIP account with a PBX base number and extension numbers (DDIs)

Further steps:

– *Save your settings before you leave the page.*

Entering Telephone Numbers for the VoIP Point-to-Multipoint Connection

The multiple subscriber number indicates which digit sequence a caller must dial in order to establish the VoIP point-to-multipoint connection.

The point-to-multipoint connection has up to ten multiple subscriber numbers. The VoIP provider allocates the telephone numbers for the connection.

The entry can be made as follows:

- Separately for VoIP accounts
- Via the configuration manager

Requirements:

– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center) in the connection type point-to-multipoint connection*

– *Configuration manager, opened with sufficient authorization*

– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the VoIP connection in question.

   A page opens for configuring the VoIP connection.
3. Open the page **VoIP connection > Telephone numbers**.

   Note: The entry is also provided during the quick configuration using the configuration wizard.
4. In the list field at the top, select the account in question by its name.
5. In the **From** entry field under **Multiple Subscriber Number (MSN)**, enter the digit sequence with the local area code (local dialling code) that you received from your VoIP provider for the account. The following entries are possible:

   Up to 20 digits

   Digits

   Note: The country prefix is entered for the location (**CONFIGURATION > External numbers > Location**). If the account of the VoIP provider requires different country prefixes, these prefixes together with the city code must precede every VoIP phone number entered.

6. In the **Name** entry field, enter a display name for the telephone number. The following entries are possible:

   Up to 16 digits

   Digits and characters

   Note:

   The name is used for display purposes on the system telephone.

   If no display name has been entered, the account name is displayed.

   When using the provider T-Online, the VoIP phone numbers obtained from the provider must also be entered under **Name**.

   ---

7. Click .

8. Repeat Steps 3 to 5 to enter additional telephone numbers.

Further steps:
– *Save your settings before you leave the page.*

Entering Telephone Numbers for the VoIP Point-to-Point Connection

The PBX base number with the following extension or global call number indicates which digit sequence a caller needs to dial to establish the VoIP point-to-point connection.

The point-to-point connection has a PBX base number and up to ten extension numbers (including the global call number). The VoIP provider allocates the telephone numbers for the connection.

The entry can be made as follows:

- Separately for VoIP accounts
- Via the configuration manager

Requirements:
– *External VoIP channel (COMpact 3000 VoIP or VoIP channels purchased and activated in the Upgrade Center) in the connection type point-to-point connection*
– *Configuration manager, opened with sufficient authorization*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.

2. In the list field at the top, select the VoIP connection in question.

A page opens for configuring the VoIP connection.

3. Open the page **VoIP connection > Telephone numbers**.

Note: The entry is also provided during the quick configuration using the configuration wizard.

---

4. In the list field at the top, select the account in question by its name.

5. In the **PBX base number** entry field, enter the PBX base number (serial, head, basis telephone number) with local area code (local dialling code) that, according to the VoIP provider, belongs to the VoIP account.

   Up to 20 digits

   Digits

Note: The country prefix is entered for the location (**CONFIGURATION > External numbers > Location**). If the account provided by the VoIP provider requires another country prefix, this number must be entered together with the local area code preceding the PBX base number entered.

---

6. In the **From** entry field under **Direct dialling in (DDI)**, enter the digit sequence you received from your VoIP provider. The following entries are possible:

   Up to 4 digits

   Digits

7. In the **Name** entry field, enter a display name for the telephone number. The following entries are possible:

   Up to 16 digits

   Digits and characters

Note:

The name is used for display purposes on the system telephone.

If no display name has been entered, the account name is displayed.

When using the provider T-Online, the VoIP phone numbers obtained from the provider must also be entered under **Name**.

---

8. Click .

9. Repeat Steps 3 to 6 to enter additional telephone numbers.

Further steps:
– *Save your settings before you leave the page.*

External Telephone Number Overview

The overview shows all of the previously created external telephone numbers with names.

Note:

The overview can be opened in the configuration manager by selecting **External phone numbers** in the list field next to and then clicking . To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

Deleting a VoIP Account

Deleting can be carried out as follows:

- Separately for VoIP accounts
- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *VoIP account created in the PBX*

1. Open the page **CONFIGURATION > External telephone numbers**.
2. In the list field at the top, select the account in question by its name.
3. Click .
4. Click **Next**.

VoIP Account Status Overview

The overview shows the three areas involved in the log-in procedure (**STUN request**, **Registration** and **Outbound proxy**). These areas stand for the important steps for establishing a connection via the VoIP account.

Note:

The overview can be opened in the configuration manager by selecting **Status VoIP accounts** in the list field next to and then clicking . To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

The overview shows the status after a page request. It is not updated automatically.

A simplified overview can also be configured as an element on the portal page (**Call channel assignments**).

The status is indicated by a colored dot. At system start, all of the dots are first shown in gray until an error occurs (red dot) or the requests are completed successfully (green dot).

In each area of the log-in procedure, a DNS request is carried out first and the response from the DNS server is evaluated. If an error occurs (red dot), first check the following error sources:

- The PBX is not connected to the network (cable is not inserted or is defective).
- The DSL modem is defective.
- If operation in the same network is otherwise undisturbed, check the network configuration of the PBX (**Ethernet configuration**, **HTTP proxy configuration** or **DNS configuration**; see **CONFIGURATION > Server configuration > Network**).

If this does not produce any results, check the status of the individual areas:

STUN request

Green	The response of the STUN server is without error and indicates that the firewall permits traffic via the SIP transport protocol.

Gray	No STUN server has been entered under **Provider configurations > Provider > STUN server** for the VoIP provider (**CONFIGURATION > External numbers > VoIP connection > Name and settings >** 📄).
Red	Error, e.g., because: • The STUN server is offline. • The IP address or URL of the STUN server was entered incorrectly under **Provider configuration > Providers > STUN server** for the VoIP provider or a port allocated by the provider was not provided (**CONFIGURATION > External numbers > VoIP connection > Name and settings >** 📄). • The STUN server is sending erroneous responses. • The STUN server reports that a firewall is blocking the SIP transport protocol or does not otherwise permit Voice over IP. In this case, Voice over IP can presumably not be used through the firewall without the proper access.

Registration

Green	The REGISTER request sent to the VoIP provider was successful.
Gray	The STUN request failed or the system was restarted. The part must be rechecked in order to display the current status. Until a response is received, a gray dot (undetermined) is displayed.
Red	Error, e.g., because: • The registrar is offline. Despite this, it can be possible to make outgoing calls if the steps in the STUN request and Outbound proxy areas were successful. However, since no telephone book entry was entered with the registrar of the provider, no calls can arrive over this account (the account is not accessible). • The domain was entered incorrectly under **Provider configuration > Provider > Servers** for the VoIP provider (**CONFIGURATION > External numbers > VoIP connection > Name and settings >** 📄). • The account data has been entered incorrectly, e.g., due to a misspelling or the data has been assigned to the incorrect provider. Here in particular, the user name, the password and the authorization ID (if provided) should be checked (**CONFIGURATION > External numbers > VoIP connection > Name and settings**). • The PBX was restarted at shorter intervals than the configured time interval for registration; see **Provider configuration > Provider > Servers** (**CONFIGURATION > External numbers > VoIP connection > Name and settings >** 📄). This leads to multiple registrations that the VoIP provider may block after a while.

Outbound proxy

Green	The VoIP provider has responded to the INVITE request in some way.

Note: The status display mirrors only the logical status! This means that, for example, an INVITE request to the provider that is replied to with "404 Not Found" (telephone number unknown) is considered successful.

Gray Undetermined, e.g., because:

- No attempt has yet been made to make a call over this VoIP account.
- The STUN request failed or the system was restarted. The part must be rechecked in order to display the current status. Until a response is received, a gray dot (undetermined) is displayed.

Red Error, e.g., because:

- The outbound proxy is offline.
- The outbound proxy was entered incorrectly under **Provider configuration > Provider > Outbound proxy** for the VoIP provider (**CONFIGURATION > External numbers > VoIP connection > Name and settings >**).
- The domain was entered incorrectly under **Provider configuration > Provider > Servers** for the VoIP provider (**CONFIGURATION > External numbers > VoIP connection > Name and settings >**).
- The account data has been entered incorrectly, e.g., due to a misspelling or the data has been assigned to the incorrect provider. Here in particular, the user name, the password and the authorization ID (if provided) should be checked (**CONFIGURATION > External numbers > VoIP connection > Name and settings**).
- Although the outbound proxy is on the network ("ping" is successful), it cannot currently carry out its task (e.g., maintenance tasks).
- The account is blocked.

DECT System Telephones

A COMfortel DECT 900 Base can be connected to the internal S_0 port (only available as an option on the COMpact S_0 module or COMpact ISDN module) on the PBX.

Note:

If a COMfortel DECT 900 Base is on the internal S_0 port, no further end devices can be run on this port due to output limitations.

A maximum of five internal telephone numbers can be allocated on a COMfortel DECT 900 Base for mobile handsets (three are recommended).

Switching the Log-in Mode over the Base Station On via the Configuration Manager

If log-in mode of a base station is enabled, up to five mobile handsets can be logged onto the base station.

Note: A maximum of three mobile handsets are recommended for a base station.

Switching this on can be carried out as follows:

- Via the configuration manager

Requirements:

– *Internal S_0 port (only provided on the COMpact S_0 module or COMpact ISDN module available as an option)*
– *Configuration manager, opened with sufficient authorization*
– *Configured internal telephone numbers for the base station*

1. Open the page **CONFIGURATION > Internal numbers > ISDN subscribers**.
2. Click **DECT settings**.
3. Open the page **DECT base station**.

   The **Log-in mode** information field under **Base station** shows the status of the log-in mode of the base station.

inactive: The log-in mode is disabled.

active: The log-in mode is enabled. (No other action is required.)

4. Click **Enable log-in mode** to enable log-in mode.

   The paging key on the base station starts blinking.

Assigning Internal Telephone Numbers to Mobile Handsets

The telephone numbers assigned to a COMfortel DECT 900 Base must be assigned to the corresponding mobile handsets.

The assignment can be carried out as follows:

- Via the configuration manager

Requirements:

– *Internal S_0 port (only provided on the COMpact S_0 module or COMpact ISDN module available as an option)*
– *Configuration manager, opened with sufficient authorization*
– *Configured internal telephone numbers for the base station*

1. Open the page **CONFIGURATION > Internal numbers > ISDN subscribers**.
2. Click **DECT settings**.
3. Open the page **DECT subscribers**.
4. In the list field at the top, select the telephone number created for a DECT subscriber using the name/number.
5. In the **Assign IPUI to the internal phone number** entry field under **Mobile handset**, enter the identification number of the mobile handset.

Note:

Each IPUI may only be assigned one telephone number.

If the base station has already been connected to the PBX and mobile handsets logged onto it, it is possible (after a short waiting period) to view the list of ID numbers for these mobile handsets in the list field and to then select a number by clicking it.

6. In the **Type** list field under **Mobile handset**, select the type of the mobile handset in question.

Further steps:
– *Save your settings before you leave the page.*

Logging Mobile Handsets Off via the Configuration Manager

Logging off can be carried out as follows:

- Via the configuration manager

Requirements:
– *Internal S_0 port (only provided on the COMpact S_0 module or COMpact ISDN module available as an option)*
– *Configuration manager, opened with sufficient authorization*
– *Configured internal telephone numbers for the base station*
– *Assigned internal telephone numbers for the mobile handsets*

1. Open the page **CONFIGURATION > Internal numbers > ISDN subscribers**.
2. Click **DECT settings**.
3. Open the page **DECT subscribers**.
4. In the list field at the top, select the subscriber in question by his name or number.
5. Select the **Logout** check box under **Mobile handset**.
   ☑ The mobile handset is logged off of the base station.
   ☐ The mobile handset is not logged off of the base station.
6. Click .

Note: If the mobile handset is logged off, the superfluous internal numbers are deleted (**CONFIGURATION > Internal numbers > ISDN subscribers**).

Configuring the Function Key for PBX Functions via the Configuration Manager

The Ⓐ function key on a COMfortel DECT 900/900C handset can be assigned to up to ten programming functions on the PBX.

Configuration can be carried out as follows:

- Via the configuration manager

Requirements:

– *Internal S_0 port (only provided on the COMpact S_0 module or COMpact ISDN module available as an option)*
– *Configuration manager, opened with sufficient authorization*
– *Configured internal telephone numbers for the base station*
– *Assigned internal telephone numbers for the mobile handsets*

1. Open the page **CONFIGURATION > Internal numbers > ISDN subscribers**.
2. Click **DECT settings**.
3. Open the page **DECT subscribers**.
4. In the list field at the top, select the mobile handset in question by its name or number.
5. In the first **Function** list field under **Function key assignment**, select one of the following options:

   ---: Enables any function to be entered.

   [Function]: Assigns the selected function to the key.

   When selecting a function, the fields **Name** and **Programming function** are pre-assigned accordingly.
6. In the **Name** entry field, enter a name for the key or, if necessary, change the predefined name. The following entries are possible:

   Up to 16 digits

   Digits and characters

   Note: The name is shown on the display after pressing the function key on a COMfortel DECT 900/900C handset.
7. In the **Programming function** entry field, enter a programming function on the PBX or replace the placeholder for the specified programming function. The following entries are possible:

Up to 24 digits

Digits and the characters * and #

UserPIN: Requires user PIN to be entered

IdentNumber: Requires the identification number to be entered

SC: Requires a short-code dialling number or external telephone number to be entered

MSN, **MSN/DDI**: Requires your own external telephone numbers to be entered

Telephone number: Requires an external telephone number to be entered

Subscriber: Requires an internal subscriber telephone number to be entered

Subscriber/group: Requires an internal subscriber telephone number/internal telephone number of a line group to be entered

---

Note: The character strings for the programming functions are listed in this manual under "Configuring and Operating Functions".

---

8. Repeat step 5 to 7 to assign the function key with additional PBX functions.
9. Repeat step 4 to 7 to configure the function key for an additional mobile handset.

Note: The function key of a mobile handset can be copied into other mobile handsets (**Copy COMfortel DECT 900**).

Further steps:
– *Save your settings before you leave the page.*

Note: The PBX begins to distribute the data to the mobile handsets in question. If a mobile handset is currently not ready for the data transfer (disabled, out of range or busy with a call), the PBX makes an attempt with the next mobile handset after a few minutes until all of the data is distributed. During the data transfer (duration: up to two minutes), the mobile handset is not available and "Copying from PBX" is shown on the display.

Copying a Function Key Assignment into Other Mobile Handsets

The assignment of the Ⓐ function key on a COMfortel DECT 900 Handset can be copied into another mobile handset.

Copying can be carried out as follows:

- Via the configuration manager

Requirements:

– *Internal S_0 port (only provided on the COMpact S_0 module or COMpact ISDN module available as an option)*
– *Configuration manager, opened with sufficient authorization*
– *Configured internal telephone numbers for the base station*
– *Assigned internal telephone numbers for the mobile handsets*

1. Open the page **CONFIGURATION > Internal numbers > ISDN subscribers**.
2. Click **DECT settings**.
3. Open the page **Copy COMfortel DECT 900**.
4. In the list field at the top, select the mobile handset, whose function key assignment should be copied based on its name/number.
5. Select or clear the corresponding **Copy function** check box under **Copy function key**.
   ☑ Selects the assignment for copying.
   ☐ Does not select the assignment for copying.
6. Under **Destination**, select or clear the check box next to the internal telephone numbers for the mobile handsets into which the selected function key assignments should be copied.
   ☑ Enables the mobile handset as the destination.
   ☐ Disables the mobile handset as the destination.
7. Click **Copy**.

Note: The PBX begins to distribute the data to the mobile handsets in question. If a mobile handset is currently not ready for the data transfer (disabled, out of range or busy with a call), the PBX makes an attempt with the next mobile handset after a few minutes until all of the data is distributed. During the data transfer (duration: up to two minutes), the mobile handset is not available and "Copying from PBX" is shown on the display.

Transferring Telephone Numbers from the PBX Telephone Book into the Telephone Book on a DECT System Telephone

The telephone numbers with their corresponding names entered in the telephone book can be transmitted into a COMfortel DECT mobile handset.

The transmission can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Entries in the telephone book*

1. Open the page **USER DATA > Telephone book**.
2. Select or clear the **DECT** check boxes for the telephone book entries in question for the internal telephone numbers assigned to the mobile handset.
   - ☑ Enables transmission.
   - ☐ Disables transmission.

Further steps:

– *Save your settings before you leave the page.*

Note: The PBX begins to distribute the data to the mobile handsets in question. If a mobile handset is currently not ready for the data transfer (disabled, out of range or busy with a call), the PBX makes an attempt with the next mobile handset after a few minutes until all of the data is distributed. During the data transfer (duration: up to two minutes), the mobile handset is not available and "Copying from PBX" is shown on the display.

Copying a Telephone Book Selection into Other Mobile Handsets

The telephone numbers selected for a DECT system telephone in the telephone book can be copied into other mobile handsets.

Copying can be carried out as follows:

- Via the configuration manager

Requirements:

- *Internal S_0 port (only provided on the COMpact S_0 module or COMpact ISDN module available as an option)*
- *Configuration manager, opened with sufficient authorization*
- *Configured internal telephone numbers for the base station*
- *Assigned internal telephone numbers for the mobile handsets*
- *Telephone numbers selected in the telephone book for transmission for the source subscriber*

1. Open the page **CONFIGURATION > Internal numbers > ISDN subscribers**.
2. Click **DECT settings**.
3. Open the page **Copy COMfortel DECT 900**.
4. In the list field at the top, select the mobile handset, whose telephone book selection should be copied based on its name/number.
5. Select or clear the **Transmission of telephone numbers to the destination telephone** check box.
   - ☑ Enables transmission.
   - ☐ Disables transmission.
6. Under **Destination**, select or clear the check box next to the internal telephone numbers for the mobile handsets into which the telephone book selection should be copied.
   - ☑ Enables the mobile handset as the destination.
   - ☐ Disables the mobile handset as the destination.
7. Click **Copy**.

Note: The PBX begins to distribute the data to the mobile handsets in question. If a mobile handset is currently not ready for the data transfer (disabled, out of range or busy with a call), the PBX makes an attempt with the next mobile handset after a few minutes until all of the data is distributed. During the data transfer (duration: up to two minutes), the mobile handset is not available and "Copying from PBX" is shown on the display.

GSM Gateway

A GSM gateway can be connected to an external port on the PBX. This allows direct access to be configured on the world-wide GSM network (Global System for Mobile Communications).

Configuring a Connection for Using a GSM Gateway

In order to use a GSM gateway on the external port, the port must be configured for GSM. This includes enabling the function on the port and selecting the connection type for an ISDN connection.

In addition, a freely dialable telephone number is required for configuring the call distribution for the connected GSM gateway.

> **Note:** The connection type on the ISDN connection and the telephone number must also be backup in the GSM gateway configuration.

The configuration can be carried out as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog) or external S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the connection in question.

   A page opens for configuring the connection in question.
3. Open one of the following pages:
   - Analog GSM gateway: **Analogue connection > Name and functions**
   - Digital GSM gateway: **ISDN connection > Name and functions**
4. Select the **GSM** option button under **Special connection functions**.

- ◉ Enables the connection for using a GSM gateway.
- ○ Disables the connection for using a GSM gateway. (No other action is required.)

5. Digital GSM gateway: Open the page **CONFIGURATION > External numbers > ISDN connection > Kind of connection** and select the connection type.

6. Open one of the following pages:

   - Analog GSM gateway: **CONFIGURATION > External numbers > Analog connection > Telephone numbers**
   - Digital GSM gateway: **CONFIGURATION > External numbers > ISDN connection > Telephone numbers**

7. Enter a freely dialable telephone number:

   - Analog GSM gateway: In the **Telephone number** entry field
   - Digital GSM gateway on the point-to-multipoint connection: In the **From** entry field under **Multiple Subscriber Number (MSN)**
   - Digital GSM gateway on the point-to-point connection: In the **PBX base number** entry field and in the **From** entry field under **Direct dialling in (DDI)**

   The following entries are possible:

   Telephone number: Up to 12 digits

   Multiple Subscriber Number (MSN): Up to 12 digits

   PBX base number: Up to 20 digits

   Direct dialling in (DDI): Up to 4 digits

   Digits

8. In the **Name** entry field, enter a name for the telephone number. The following entries are possible:

   Up to 16 digits

   Digits and characters

Note: The name is used for display purposes on the system telephone.

Further steps:

– *Save your settings before you leave the page.*
– *In the configuration of the GSM gateway enter the connection type and the telephone number.*

Call Distribution

In call distribution, you specify which internal subscribers should be given the signal for an incoming external call. This means that in call distribution, you specify, e.g., permanently, which internal telephones should ring when you are called. Call distribution for each telephone number is configured individually on a connection with multiple external telephone numbers (e.g., ISDN connection).

You can configure both one telephone for multiple telephone numbers and multiple telephones for one telephone number to ring.

There is a difference between immediate and delayed signaling. Incoming calls are signaled after 15 second on a subscriber for which delayed signaling has been configured.

On a COMpact 3000 analog, a fax machine with the fax switch function can be assigned a special role in call distribution.

Call Distribution Groups

The PBX automatically creates an internal group for each external telephone number entered (telephone number range 8750 to 8799). This call distribution group differentiates itself from the line groups in that it cannot be used for internal calls. You only need the telephone number in the call distribution group if you would like to enable/disable a voice mailbox with an internal telephone using a character string. For this purpose, the group telephone number on the page **CONFIGURATION > Call Distribution** is displayed directly below the corresponding external telephone number.

Creating Call Distribution

Note:

External telephone numbers that are required as **remote switching numbers** (**SERVICE > Remote configuration**) or **Call Through telephone numbers** (**FUNCTIONS > Call Through**) are not allowed to be used in call distribution.

In order for a subscriber to signal incoming external calls, it needs at least **Exchange line authorization** (business) **only incoming, with emergency call** (**PROPERTIES > Internal subscribers > Exchange line settings**).

Creation can be carried out as follows:

- Separately for configurations
- Via the configuration manager
- Using a character string on the internal telephone

Creating Call Distribution via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Configured external telephone numbers*

– *Configured internal subscribers*

1. Open the page **CONFIGURATION > Call distribution > Create call distribution**.

   Note: Creation is also offered in the configuration wizard during quick setup.

   All of the separate external telephone numbers entered and the corresponding group phone numbers (call distribution groups) are displayed horizontally across the table. Under **Subscribers**, all of the internal subscribers created (telephone numbers and name) are listed.

   Note: Click ▶ to scroll horizontally across the table to display other telephone numbers. Click ◀ to scroll back again.

2. Select which subscriber will signal the calls on your external phone number. The following settings are possible:

   – No signaling

   ✓ Immediate signaling

   Delayed signaling

   Note: Incoming calls are signaled after 15 seconds on a subscriber for which delayed signaling has been configured.

Further steps:

– *Save your settings before you leave the page.*

Creating Call Distribution on the Analog Connection via the Internal Telephones

Requirements:

– *Knowledge of the sub-admin or admin PIN*

Note: If devices that automatically accept calls are connected (e.g., answering machine, fax, analog door module), you need to remove them before carrying out the configuration. Exception: Devices connected to the fourth telephone jack.

---

1. Pick up the receiver of the internal telephone on which external calls should ring.
2. Dial **##8**.
3. Enter the sub-admin or admin PIN.
4. Dial ***901#** and do not hang up the receiver.

   Any other telephones connected also ring. The fourth telephone jack is meant for the fax. The device connected does not ring.
5. Pick up the receivers of the telephones that are also supposed to ring for external calls.

   You will hear the confirmation tone on each receiver you pick up (pulsating tone).

   Note: If a telephone is connected to the fourth telephone jack, instead of the pre-configured fax machine, you must also pick up that receiver for just a short time in order to cancel the default setting.

   ---
6. Hang up the receivers of all the telephones in order to complete the learning process for this MSN.

Creating Call Distribution on the Point-to-Multipoint Connection via the Internal Telephones

Requirements:

– *Knowledge of the sub-admin or admin PIN*

Note: If devices that automatically accept calls are connected (e.g., answering machine, fax, analog door module), you need to remove them before carrying out the configuration. Exception: Devices connected to the fourth telephone jack.

Perform the following steps for each MSN available on the connection (telephone numbers on the point-to-multipoint connection):

1. Pick up the receiver of the internal telephone on which external calls should ring.
2. Dial **##8**.
3. Enter the sub-admin or admin PIN.
4. Dial ***901***.
5. Enter an MSN without a prefix.
6. Dial **#** and do not hang up the receiver.

   Any other telephones connected also ring. The fourth telephone jack is meant for the fax. The device connected does not ring.
7. Pick up the receivers of the telephones that are also supposed to ring for external calls on this MSN.

   You will hear the confirmation tone on each receiver you pick up (pulsating tone).

   Note: If a telephone is connected to the fourth telephone jack, instead of the pre-configured fax machine, you must also pick up that receiver for just a short time in order to cancel the default setting.

   ---
8. Hang up the receivers of all the telephones in order to complete the learning process for this MSN.

Deleting Internal Telephone Call Distribution on the ISDN-Point-to-Multipoint Connection

Requirements:

– *Knowledge of the sub-admin or admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin or admin PIN.
4. Dial ***900#**.

Configuring the Fax Switch

If the fax switch is enabled, the PBX transfers external calls actively or passively to an internal fax machine or a fax box.

- **active fax switch**: The PBX automatically accepts each external call. It uses the dial tones to try to determine whether the incoming call is from a fax machine. If the corresponding dial tones are identified within the detection duration of six seconds, the call is transferred to the internal destination (fax machine or fax box). If the dial tone cannot be identified within this time frame, normal call distribution is put into effect.
- **passive fax switch**: External calls are signaled on the internal subscribers that are selected in call distribution. If a user accepts the call and then hangs up again within three seconds, the PBX transfers the call to the internal destination (fax machine or fax box).
- **active/passive fax switch**: Active and passive are switched in succession. This allows the call to be automatically transferred from the PBX to the internal destination within the detection duration of six seconds (fax machine or fax box) or transferred by a user who accepts the call and hangs up again within three seconds.

Configuration can be carried out as follows:

- Separately for configurations
- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog)*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Call distribution > Create call distribution**.

   All of the separate external telephone numbers entered and the corresponding group phone numbers (call distribution groups) are displayed horizontally across the table.

   Note: Click ▶ to scroll horizontally across the table to display other telephone numbers. Click ◀ to scroll back again.

2. In the first **Fax function** list field, select one of the following options:

   off: Disables the fax switch. (No other action is required.)

   active fax switch: Enables the active fax switch.

   passive fax switch: Enables the passive fax switch.

   active/passive fax switch: Enables the active/passive fax switch.

3. In the second **Fax function** list field, select the internal destination:

   801 to **806**: Fax box

   Internal number or name: Fax machine

Further steps:
– *Save your settings before you leave the page.*

Overview of the Call Distribution

The overview indicates on which internal subscribers a call on a separate external telephone number is signaled.

Note:

The overview can be opened in the configuration manager by selecting **Call distribution** in the list field next to and then clicking . To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

Emergency Call

Emergency calls are calls to the telephone numbers entered as emergency numbers in the PBX.

An emergency number can be dialled either with or without the exchange line access number; this means the user does not have to think about this in an emergency. This also means that someone who does not have experience with exchange line access numbers can dial these telephone numbers without any problems.

Via the corresponding exchange line authorization, emergency numbers can be used to dial important telephone numbers on subscribers on which normally no external calls can be made.

Important: Currently, emergency calls cannot yet be completely guaranteed over VoIP by all providers. This affects not only the connection to the public safety answering point but also provides the important geographic location of the caller during an emergency call.

COMpact 3000 analog, COMpact 3000 ISDN and optional COMpact ISDN Module:

The PBX gives land line connections priority for emergency calls. If the land line connection is busy and the emergency call priority switch is enabled, a call will be interrupted to allow the emergency call to go through – even if the VoIP access points are available. If no land line connection is available (external analog port or ISDN port is being used by the GSM gateway), emergency calls are carried out over the GSM gateway.

Note: It is possible to manually dial emergency numbers over VoIP access points using a targeted exchange line with the account number.

Switching the Emergency Call Priority Switch On/Off

If the emergency call priority switch is enabled, an external line is definitely made available when dialling an emergency number from the PBX.

Note for COMpact 3000 analog, COMpact 3000 ISDN and optional COMpact ISDN module: The PBX gives land line connections priority for emergency calls. If the land line connection is busy and the emergency call priority switch is enabled, a call will be interrupted to allow the emergency call to go through – even if the VoIP access points are available.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog) or external S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option) or external VoIP channel (only COMpact 3000 VoIP)*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Emergency call > Settings**.
2. Select or clear the **Emergency call has priority** check box.
   - ☑ Enables emergency call priority switch.
   - ☐ Disables emergency call priority switch.

Note: The emergency call priority switch is enabled for the entire PBX.

Further steps:

– *Save your settings before you leave the page.*

Creating Emergency Numbers

Up to ten external telephone numbers can be entered as emergency numbers.

Note: The emergency numbers 110 and 112 are assigned in the factory settings.

The creation can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Emergency call > Emergency numbers**.

2. If necessary, change one of the emergency numbers displayed or enter a new emergency number in the first available **Emergency numbers** entry field. The following entries are possible:

   Up to 20 digits

   Digits

   Note:

   Also telephone numbers from the local telephone network have to be entered with a prefix. Exception: Emergency numbers regulated by law, e.g. 110 and 112.

   Note that entering emergency numbers without a prefix restricts the internal telephone number plan. For example, the use of the emergency numbers 110 and 112 means that the internal telephone numbers 110 and 112 as well as 1100-1109 and 1120-1129 are no longer available.

   ---

3. Enter a name for identification purposes in the **Name** entry field. The following entries are possible:

   Up to 16 digits

   Digits and characters

   Note: The name is used for display purposes on the system telephone. Furthermore, on some pages in the configuration manager (e.g., call data list), the name is displayed in addition to the telephone number.

   ---

4. Click .

5. Repeat step 2 to 4 to enter additional telephone numbers.

Further steps:
– *Save your settings before you leave the page.*

PBX Time

The PBX has an internal clock that returns the PBX time (time and date) on the connected end devices. If the end device is so equipped, the PBX time will be displayed on the end device.

Furthermore, the PBX time is required to carry out functions such as switching configurations as well as wake-ups.

During a power failure or PBX reset, the PBX time is lost. There are several ways to update it:

- Manually
- Via the network
- Using the buffered real-time clock – saves the time for approx. two hours in the case of a power outage.
- Via ISDN (only COMpact 3000 ISDN or COMpact ISDN module available as an option)

Note: The switch to/from daylight savings is done automatically for the PBX time.

Configuring PBX Time (Time and Date) Manually

Note: Changing the time could possibly lead to an automatic logoff in the configuration manager.

The configuration can be made as follows:

- Via the configuration manager
- Using a character string on the internal telephone

Manually Configuring the PBX Time via the Configuration Manager

Requirements:

– Configuration manager, opened with sufficient authorization

1. Open the page **CONFIGURATION > PBX time**.
2. In the **Time** entry field, enter the correct time. The following entries are possible:

Time in hh format: mm : ss

00 to **23**: Hours (hh)

00 to **59**: Minutes (mm)

00 to **59**: Seconds (ss)

3. In the **Date** entry field, enter the current date. The following entries are possible:

   Date in the format DD . MM . YYYY

   01 to **31**: Day (DD)

   01 to **12**: Month (MM)

   1970 to **9999**: Year (YYYY)

4. Select one of the following options from the **Time zone** list field depending on the location.

   UTC: The UTC (Coordinated Universal Time - world time) is a combination of the International Atomic Time (TAI) and Universal Time (UT). It is used instead to Greenwich Mean Time (GMT).

   Location name, e.g., **Berlin**

5. Click **Set now**.

Accepting the PBX Time from the PC via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > PBX time**.

2. Select one of the following options from the **Time zone** list field depending on the location.

   UTC: The UTC (Coordinated Universal Time - world time) is a combination of the International Atomic Time (TAI) and Universal Time (UT). It is used instead to Greenwich Mean Time (GMT).

   Location name, e.g., **Berlin**

3. Click **Accept date and time from PC**.

Manually Configuring PBX Time via the Internal Telephone

Requirements:

– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*

– *Knowledge of the sub-admin or admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin or admin PIN.
4. Dial ***300**.
5. Enter the time. The following entries are possible:

   6-digit time in hhmmss format

   00 to **23**: Hours (hh)

   00 to **59**: Minutes (mm)

   00 to **59**: Seconds (ss)
6. Dial **#**.

Manually Configuring PBX Date via the Internal Telephone

Requirements:

– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*

– *Knowledge of the sub-admin or admin PIN*

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the sub-admin or admin PIN.
4. Dial ***301**.
5. Enter the date. The following entries are possible:

   6-digit date in DDMMYY format

   01 to **31**: Day (DD)

   01 to **12**: Month (MM)

   00 to **99**: Year (YY)
6. Dial **#**.

Switching the Automatic Updating of the PBX Time On/Off via the Network

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:
– *PBX connection to the server network*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > PBX time**.
2. In the **Update interval** list field, select one of the following options:

   no NTP service: Disables the automatic updating of the PBX time via the network. (No other action is required.)

   Time interval, e.g., **Update after 5 hours**: Enables the automatic updating on the PBX time via the network.

   Note: The automatic updating of the PBX time via the network is performed at the selected time interval (e.g., every 5 hours).

3. Select or enter an NTP server:
   - Click the **Country** option button and select the desired country from **Country** the list field. Finally, select the desired server from the **NTP server** list field.
   - Click the **Manual server** option button. Enter the address of a local NTP server or the name of a external NTP server in the **Manual server** entry field.

   Note: You should receive the address from the system administrator of the network.

Further steps:
– *Save your settings before you leave the page.*

Switching Automatic Updating of the PBX Time after Each ISDN Call On/Off

If updating the PBX time after each ISDN call is enabled, the time transmitted by the network provider during an outgoing external call is used for setting the PBX time.

Note:

The network provider usually transmits a time that is precise to the minute.

The time is updated at most once per hour.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > PBX time**.
2. Select or clear the **After each ISDN call** check box.
   - ☑ Enables automatic updating of the PBX time after each ISDN call.
   - ☐ Disables automatic updating of the PBX time after each ISDN call.

Further steps:

– *Save your settings before you leave the page.*

Switching Automatic PBX Time Updates via ISDN for Missing Time On/Off

If updating the PBX time for missing time is enabled, the PBX automatically initiates an ISDN call using the connection configured.

Note:

The automatic call is initiated if a valid time or a valid date is missing in both the PBX and in the connected system telephone.

During an outgoing external call, the network provider usually transmits a time that is precise to the minute that is then used to set the PBX time.

Switching this on/off can be done as follows:

- Via the configuration manager

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > PBX time**.
2. Select or clear the **Automatic ISDN call** check box.
   - ☑ Enables the automatic updating of the PBX time if the time is missing.
   - ☐ Disables the automatic updating of the PBX time if the time is missing. (No other action is required.)
3. In the entry field, enter the telephone number that the PBX should automatically dial. The following entries are possible:

   Up to 16 digits

   Digits

Note:

If no telephone number is entered, the PBX automatically initiates a call using the MSN/DDI first entered.

When entering a telephone number, it should be a connection on which an automatic machine can accept a call.

Further steps:

– *Save your settings before you leave the page.*

Calendar

Holidays and other days with special uses (e.g., vacation times) are managed in the PBX calendar. These days are taken into account by the PBX during automatic configuration switch-overs and, if desired, during Least Cost Routing (LCR) and when executing wake-up calls.

Adding Holidays from Holiday Lists

The PBX provides previously prepared holiday lists for various the countries/federal states.

The adding can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **USER DATA > Calendar > Holiday lists**.
2. Select the country/federal state in the **State** list field under **Insert list of holidays**.
3. Click **Insert** under **Insert lists of holidays**.

   The holidays valid for the country/federal state are added for an indefinite period. Holidays with data that changes yearly are calculated automatically by the PBX.

   Note: Holidays inserted in this manner can be deleted or edited individually as needed. Each of these changes is carried out automatically for all calendar years.

Creating and Editing Holidays

In addition to the holidays that are available in the holiday lists for the various countries/federal states, you can create you own holidays with customized information (e.g., company vacations). You can also edit existing entries. The following settings can be configured for each holiday individually:

- **Activated**: If the holiday in question is enabled for use in PBX functions, it is taken into account by the PBX during automatic configuration switchovers and, if desired, during Least Cost Routing (LCR) and when wake-up calls are made.
- **One-time**: If the "One-time" property is enabled, the holiday is only used in the year for which it was entered. If the "One-time" property is disabled, the holiday date is automatically used the next year with the same date. The property "One-time" is always disabled for holidays that are added via the holiday lists. Holidays with dates that change yearly on the holiday lists are automatically calculated by the PBX.
- **Valid for LCR**: If the holiday in question is enabled for use with Least Cost Routing, the dial attempt setting entered for holidays is used during outgoing calls. If the holiday in question is disabled for use with Least Cost Routing, the dial attempt setting entered for the weekday in question is used during outgoing calls.

Creating and editing the entry can be carried out as follows:

- Via the configuration manager

Requirements:

– Configuration manager, opened with sufficient authorization

1. Open the page **USER DATA > Calender > Holidays**.
2. In the **Date** entry field, enter the date (8 digits in DD.MM.YYYY format) or click and select the date.
3. Enter a name for the holiday in the **Name** entry field.
4. Select or clear the **Activated** check box.
   - ☑ Enables the holiday in question for use in PBX functions.
   - ☐ Disables the holiday in question for use in PBX functions.
5. Select or clear the **One-time** check box.
   - ☑ Enables the property "One-time" for the holiday in question.
   - ☐ Disables the property "One-time" for the holiday in question.
6. Select or clear the **Valid for LCR** check box.
   - ☑ Enables the holiday in question for use in Least Cost Routing.
   - ☐ Disables the holiday in question for use in Least Cost Routing.
7. Click to add a new entry.

Further steps:

– Save your settings before you leave the page.

Importing Holidays

This function allows you to import holidays exported previously from another PBX of the same design.

The import can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *A file (*.ft) saved on a data storage medium (PC)*

1. Open the page **USER DATA > Calendar > Holidays**.
2. Click **Browse** (this text is dependent on the operating system used).

   A file selection dialog opens.
3. Select the file to be imported and click **Open** (this text is dependent on the operating system used).
4. Click **Import**.

   The holidays are saved in the PBX.

Note: If the list to be imported includes a date that has already been entered on the page, the import file entry is discarded.

Exporting Holidays

The entered holidays can be exported into a file (*.ft) so they can be imported afterwards to a different PBX of the same design.

The export can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **USER DATA > Calendar > Holidays**.

2. Click **Export**.

   A dialog for downloading the file "publicholiday.ft" opens.

3. Save the file on the PC.

Overview of Holidays

The overview shows a table with the months and days of the current year. All previously configured holidays are highlighted in a red font.

Note:

The overview can be opened in the configuration manager by selecting **Holidays** in the list field next to and then clicking . To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

Tones

The PBX supports different tones on the receiver in order to signal the various operating states on the PBX:

- External dial tone (long dial tone): After dialling the exchange line access number, when a free external line is available – dialling a telephone number is possible
- Internal dial tone (private branch exchange dial tone): After picking up the receiver or after pressing the Flash or Query key, when a free line is available – dialling a telephone number is possible

> **Note:** On standard VoIP telephones, a dial tone is generated by the telephone itself, even when no free line is available.

- Confirmation tone: At the completion of programming, when the programming has been successfully executed
- Busy tone:

  After picking up the receiver, when no free line is available or an authorization is missing

  After dialling a telephone number, when the desired connection is busy or the network is overloaded or an authorization is missing

  At end of call

  During programming, when the programming was unsuccessful or an authorization is missing

  During a Call Through call, when the telephone number transferred from the mobile phone is not permitted to use Call Through
- Call tone: during the call phase
- Special tone 1 and special tone 2:

  After picking up the receiver (when a special tone has been configured as the internal dial tone)

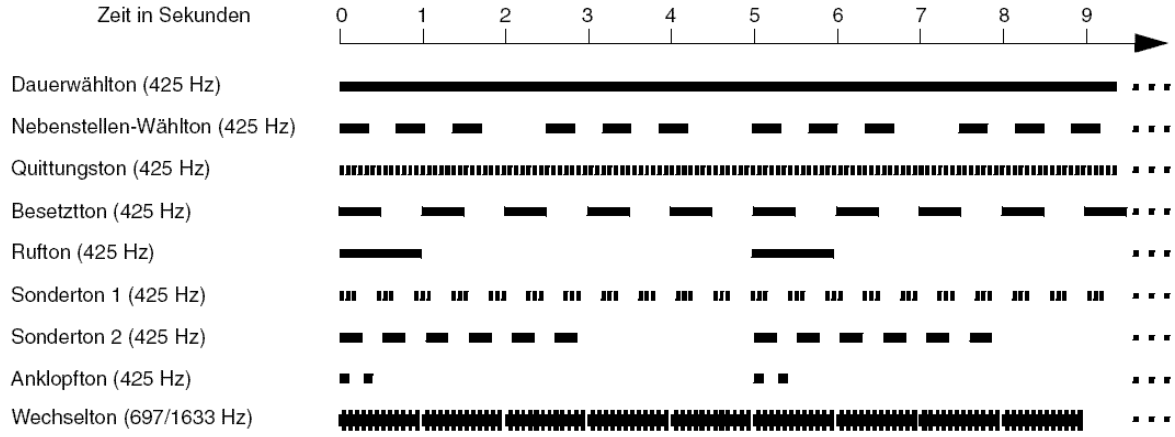
  After picking up the receiver (when a special dial tone has been enabled), when the call data memory is full
- Call waiting tone: During a call (when call waiting has been enabled), when another call comes in – it is possible to accept or reject the additional call
- Changing tone:

  During a Call Through call, when the telephone number transferred from the mobile phone is permitted to use Call Through - dialling a telephone number is possible

  During a remote programming call, when the connection for remote programming is available – programming is possible

Presenting the Tones

The tones are signaled as follows:



Configuring the Internal Dial Tone

The user hears the internal dial tone after picking up the receiver or after pressing the FLASH or query key if a line is available. It is then possible to dial a telephone number.

The configuration can be made as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Signalization by tones**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. In the **Internal dial tone** list field, select one of the following options:

   1 x long: 1 Long tone (1 second), 4 second pause, ...

   3 x short: 3 Double tones, approx. 1 second pause, ...

   Special tone: Pulsating tone

Note: If the special tone is configured as the internal dial tone, it is no longer possible to differentiate it from the special dial tone.

Further steps:
– *Save your settings before you leave the page.*

Switching the Busy Tone for the End of Call On/Off

If busy tone for end of call is enabled, the PBX generates a busy tone at the end of the call (e.g., the communication partner hangs up).

For some answering machines, this busy tone does not interrupt a recording. These answering machines cannot differentiate between the busy tone and speech. For such cases, the busy tone can be disabled.

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Signalization by tones**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **Busy tone at end of call** check box.
   - ☑ Enables the busy tone at the end of a call.
   - ☐ Disables the busy tone at the end of a call.

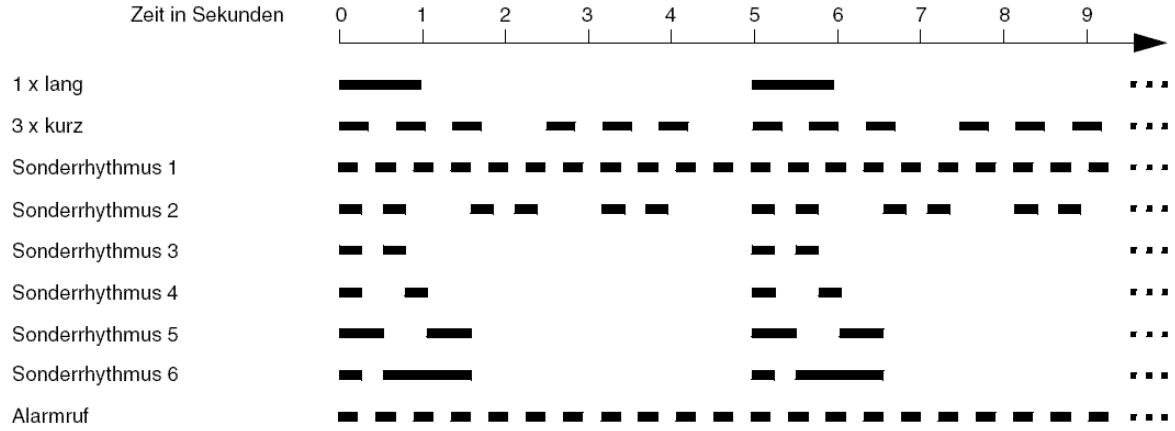
Further steps:
– *Save your settings before you leave the page.*

Ringer Rhythms

The PBX supports different ringer rhythms for signaling calls on the internal subscribers.

Ringer Rhythm Display

Ringer rhythms are displayed on analog telephones as follows:



Call Differentiation via Ringer Rhythms

It is possible to configure different ringer rhythms to differentiate external calls via different external telephone numbers or internal calls (e.g., on two internal analog telephones in the same room) using the ringer rhythm.

Note:

On a system telephone COMfortel 1100/1500/2500/2500 AB/ VoIP 2500 AB, the ringer rhythms can be configured based on the call type or the telephone numbers.

Some end devices (e.g., wireless, analog telephones) generate their own call tone/ringer rhythm. For more information, refer to the description of your end device.

Configuring a Ringer Rhythm for Internal Calls

The ringer rhythm indicates which tone sequence is used to signal internal calls on the analog PBX subscribers.

The configuration can be made as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Analog settings**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select one of the following options in the **Ringer rhythm for internal calls** list field.

   1 x long: 1 Long tone (1 second), 4 second pause, ...

   3 x short: 3 Double tones, approx. 1 second pause, ...

Further steps:

– *Save your settings before you leave the page.*

Configuring a Ringer Rhythm for External Calls via the Analog Connection

The ringer rhythm indicates which tone sequence is being used to signal external calls, made to the telephone number assigned to the analog connection, on the internal PBX subscribers.

Note:

Signaling is carried out by analog devices as described.

ISDN devices generate their own call tone/ringer rhythm. For more information, refer to the description of your ISDN end device.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *External analog port (only COMpact 3000 analog)*
– *Configuration manager, opened with sufficient authorization*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the analog connection.

   A page opens for configuring the analog connection.
3. Open the page **Analogue connection > Telephone numbers**.

   Note: The configuration is also provided during the quick configuration using the configuration wizard.
4. Select one of the following options in the **Ringer rhythm** list field.

   1 x long: 1 Long tone (1 second), 4 second pause, ...

   3 x short: 3 Double tones, approx. 1 second pause, ...

   1st special rhythm: Uninterrupted pulsing

   2nd special rhythm: Continually repeating double tones (3 double tones in 5 seconds)

   3rd special rhythm: 1 Double tone, approx. 4 second pause, ...

   4th special rhythm: 2 Short tones, approx. 4 second pause, ...

   5th special rhythm: 2 Long tones, approx. 3 second pause, ...

   6th special rhythm: 1 1 short and 1 long tone, approx. 4 second pause, ...

Further steps:

– *Save your settings before you leave the page.*

Configuring a Ringer Rhythm for External Calls via the Point-to-Multipoint Connection

The ringer rhythm indicates which tone sequence is used to signal external calls made to the telephone number assigned to the point-to-multipoint connection, to the internal PBX subscribers.

Note:

Signaling is carried out by analog devices as described.

ISDN devices generate their own call tone/ringer rhythm. For more information, refer to the description of your ISDN end device.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option) or/and VoIP account in the connection type point-to-multipoint connection*
– *Configuration manager, opened with sufficient authorization*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the connection in question.

   A page opens for configuring the connection in question.
3. Open one of the following pages:
   - **ISDN connection > Telephone numbers**
   - **VoIP connection > Telephone numbers**

   Note: The configuration is also provided during the quick configuration using the configuration wizard.

   ---
4. Select one of the following options in the **Ringer rhythm** list field.

   1 x long: 1 long tone (1 second), 4 second pause, ...

   3 x short: 3 double tones, approx. 1 second pause, ...

   1st special rhythm: Uninterrupted pulsing

   2nd special rhythm: Continually repeating double tones (3 double tones in 5 seconds)

   3rd special rhythm: 1 double tone, approx. 4 second pause, ...

   4th special rhythm: 2 short tones, approx. 4 second pause, ...

   5th special rhythm: 2 long tones, approx. 3 second pause, ...

   6th special rhythm: 1 short and 1 long tone, approx. 4 second pause, ...

Further steps:
– *Save your settings before you leave the page.*

Configuring a Ringer Rhythm for External Calls via the Point-to-Point Connection

The ringer rhythm indicates which tone sequence is being used to signal external calls, made on the telephone number assigned to the point-to-point connection, to the internal PBX subscribers.

Note:

Signaling is carried out by analog devices as described.

ISDN devices generate their own call tone/ringer rhythm. For more information, refer to the description of your ISDN end device.

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option) or/and VoIP account in the connection type point-to-point connection*
– *Configuration manager, opened with sufficient authorization*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the connection in question.

   A page opens for configuring the connection in question.
3. Open one of the following pages:
   - **ISDN connection > Telephone numbers**
   - **VoIP connection > Telephone numbers**

   Note: The configuration is also provided during the quick configuration using the configuration wizard.

   ---
4. Select one of the following options in the **Ringer rhythm** list field.

1 x long: 1 long tone (1 second), 4 second pause, ...

3 x short: 3 double tones, approx. 1 second pause, ...

1st special rhythm: Uninterrupted pulsing

2nd special rhythm: Continually repeating double tones (3 double tones in 5 seconds)

3rd special rhythm: 1 double tone, approx. 4 second pause, ...

4th special rhythm: 2 short tones, approx. 4 second pause, ...

5th special rhythm: 2 long tones, approx. 3 second pause, ...

6th special rhythm: 1 short and 1 long tone, approx. 4 second pause, ...

Further steps:

– *Save your settings before you leave the page.*

Configuring the Ringer Frequency

The ringer frequency indicates the ringer voltage frequency signals the PBX calls to the internal analog subscribers.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **CONFIGURATION > Internal phone numbers > Analog subscribers**.
2. In the **Rhythm frequency** list field, select one of the following options:

   25 Hz

   50 Hz

Further steps:

– *Save your settings before you leave the page.*

Protection from Unauthorized Access

In order to prevent important settings from being changed accidentally or by unauthorized people, the PBX can be protected from unauthorized access.

The following authorization levels are available:

- Administrator (access with admin PIN)
- Sub-administrator (access with one of four sub-admin PINs)
- User (access via user PIN assigned to subscriber)

Access Authorization

Access authorization to the configuration manager is limited depending on authorization level.

Administrator

The administrator has unrestricted access to the configuration manager. The PBX can be configured completely and the PINS of the other users (internal subscribers) can be changed with this access.

Sub-administrator

Just as the administrator does, the sub-administrator has complete access to the configuration manager. The following settings are the only ones he cannot configure:

- Viewing and configuring the admin PIN
- Entering the dealer data
- Configuring the remote configuration
- Viewing and using the configuration wizard

Users (internal subscribers)

The user has the following access authorization:

- Configuring and use of windows on the portal page
- Configuring to separate subscriber properties (**User settings** and **Signalization by tones**)
- Configuring to separate wake-up times
- Viewing separate time and call allowance account settings
- Viewing the separate call data list
- Viewing the telephone book and use of the soft call function
- Viewing and editing of separate voice mailbox and fax box messages
- Viewing of all call restrictors and call deblockers (including telephone numbers entered)

Configuring the Admin PIN and Admin User Name

The user data for an administrator can be configured.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Server configuration > Access and PBX data**.

   Note: The configuration is also provided during the quick configuration using the configuration wizard.

2. Change the user name for the administrator when necessary in the **User name** entry field under **Administrator**. The following entries are possible:

   Up to 6 digits

   Digits and characters

3. Change the admin PIN when necessary in each of the **PIN** and **PIN (repeat entry)** entry fields under **Administrator**. The following entries are possible:

   Exactly 6 digits

   Digits

   Note:

   All of the PINs in the PBX are unique. This means that it is not possible to allocate the same PIN twice.

   Do not use dates of birth or dates as PINs. This makes it easy for an attacker to find out the correct PIN. PINs which are easy to guess, such as 111111 or 123456, should also be avoided.

Further steps:

– *Save your settings before you leave the page.*

Configuring User PINs

The configuration can be made as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open one of the following pages:
   - **CONFIGURATION > Internal numbers > Analog subscribers**
   - **CONFIGURATION > Internal numbers > ISDN subscribers**
   - **CONFIGURATION > Internal numbers > VoIP subscribers**
2. Enter the PIN you want in the **PIN** entry field for the subscriber in question. The following entries are possible:

   Exactly 6 digits

   Digits

Note:

All of the PINs in the PBX are unique. This means that it is not possible to allocate the same PIN twice.

Do not use dates of birth or dates as PINs. This makes it easy for an attacker to find out the correct PIN. PINs which are easy to guess, such as 111111 or 123456, should also be avoided.

Further steps:

– *Save your settings before you leave the page.*

Configuring Sub-admin PINs

The sub-admin PIN corresponds to the user PIN for the corresponding sub-administrator. A maximum of four sub-admin PIN can be configured.

The configuration can be made as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– Configuration manager, opened with sufficient authorization

1. Open one of the following pages:
   - **CONFIGURATION > Internal numbers > Analog subscribers**
   - **CONFIGURATION > Internal numbers > ISDN subscribers**
   - **CONFIGURATION > Internal numbers > VoIP subscribers**
2. Enter the sub-admin PIN you want in the **PIN** entry field for the subscriber in question. The following entries are possible:

   Exactly 6 digits

   Digits

   Note:

   All of the PINs in the PBX are unique. This means that it is not possible to allocate the same PIN twice.

   Do not use dates of birth or dates as PINs. This makes it easy for an attacker to find out the correct PIN. PINs which are easy to guess, such as 111111 or 123456, should also be avoided.

   ---

3. Select the **Sub-admin** check box for the subscriber in question.

   ☑ The subscriber in question receives sub-administrator permissions.

Further steps:

– Save your settings before you leave the page.

Changing the PIN

Any PIN on the PBX can be changed.

The change can be carried out as follows:

- Using a character string on the internal telephone

Requirements:

– *Authorization* ***Controlling of the PBX via telephone*** *assigned to the subscriber*

– *Knowledge of the required PIN*

1. Pick up the receiver.
2. Dial ***99***.
3. Enter the existing PIN.
4. Dial ***.
5. Enter the new PIN. The following entries are possible:

   Exactly 6 digits

   Digits

   Note:

   All of the PINs in the PBX are unique. This means that it is not possible to allocate the same PIN twice.

   Do not use dates of birth or dates as PINs. This makes it easy for an attacker to find out the correct PIN. PINs which are easy to guess, such as 111111 or 123456, should also be avoided.

6. Dial ***.
7. Re-enter the new PIN.
8. Dial **#**.

   Note: If, at this point, you hear a busy tone instead of a confirmation tone, the new PIN may already be in use in the PBX and no change takes place. Re-attempt with another digit sequence.

Switching Authorization for Controlling the PBX On/Off

If authorization for controlling the PBX via telephone is enabled, the subscriber in question program the PBX over the internal telephone.

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Authorizations**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **Controlling of the PBX via telephone** check box.
   - ☑ Enables the authorization for controlling the PBX via telephone.
   - ☐ Disables the authorization for controlling the PBX via telephone.

Further steps:

– *Save your settings before you leave the page.*

Exchange Line Access

In order to initiate the dialling of an external telephone number, an external line must be used:

- By picking up the receiver on the direct exchange line access (factory settings)
- By picking up the receiver and dialling the exchange line access number if no direct exchange access is used.

Switching Direct Exchange Line Access On/Off

If direct exchange access is enabled for an internal subscriber (factory setting), picking up the receiver requests an external line (without having to enter the exchange line access number).

This setting is suitable for internal telephones that are primarily used for external calling and without functions such as short-code dialling and private calls.

Note:

Internal calls are possible by dialling ****** beforehand.

The ISDN PC card, which should be used to program the system, may not be configured as direct exchange access because otherwise programming via the ISDN PC card will no longer be possible.

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Exchange line settings**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **Direct exchange access** check box.
   - ☑ Enables direct exchange access for the subscriber.
   - ☐ Disables direct exchange access for the subscriber.

Further steps:
– *Save your settings before you leave the page.*

Configuring the Exchange Line Access Number

The exchange line access number is required to request an external line (exception: direct exchange access).

Note: An available external line is indicated by the external dial tone after the exchange line access number has been dialled. The external telephone number can then be dialled.

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External telephone numbers > Location**.
2. In the entry field **Exchange line access number**, change the exchange line access number. The following entries are possible:

   1 digit in the range of **0** to **7** and **9**

Note:

The factory settings for the exchange line access number on the PBX is "0". Changing the exchange line access number is only meaningful if another exchange line access number is normally used (e.g., in England).

Note that changing the exchange line access number restricts the telephone number plan.

The exchange line access number 8 is restricted. It is required for internal PBX use.

Further steps:
– *Save your settings before you leave the page.*

Transfer and Callback

The PBX requires specifications for the transfer and the callback option for external callers to be executed as desired.

Configuring Hook Flash Timing

Hook flash timing enables the PBX to detect a flash signal from the subscriber in question.

For this to work, the hook flash timing must correspond with the time that is configured for the flash signal on the analog end device (see the telephone manual).

Note:

DTMF telephones that execute various functions using the T-Net function key/menu use a flash of 300 ms to do this. In order to also use these functions on the PBX, the same time as the hook flash timing must be configured on the PBX. Usually, there is an additional flash button available on this telephone that must also be configured with this value (see the telephone manual).

Note that the PBX does not detect a receiver being hanged up until after hook flash timing is finished.

The configuration can be made as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Analog settings**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. In the **Hook flash timing** list field, select one of the following options:

   100 ms to **1 s**: The PBX detects a signal sent from the subscriber in question from 100 to 1000 milliseconds as a flash signal.

Further steps:
– *Save your settings before you leave the page.*

Switching the Authorization for External Call Transfer Externally On/Off

If the authorization for transferring external calls externally is enabled, the subscriber in question can transfer a call between two external subscribers.

> **Note:** The transferred call is limited to a pre-configured time period (**FUNCTIONS > Transfer**).

Switching this on/off can be done as follows:

- Separately for subscribers
- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– ***Exchange line authorization** assigned to the subscriber for external calls (**International** or **National**)*

1. Open the page **PROPERTIES > Internal subscribers > Subscriber properties > Authorizations**.
2. In the list field at the top, select the subscriber in question by his name or number.
3. Select or clear the **Transfer of external calls externally** check box.
   - ☑ Enables the authorization for transferring external calls in externally.
   - ☐ Disables the authorization for transferring external calls in externally.

Further steps:
– *Save your settings before you leave the page.*

Configuring the Maximum Duration of Transferred Calls (External to External)

The maximum duration of transferred calls (external to external) indicates how many minutes a connected call between two external subscribers may last at most.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **FUNCTIONS > Transfer**.
2. Enter a value in the **Maximum call duration** entry field under **Transfer two external subscribers**. The following entries are possible:

   1 to **99**: The PBX ends the transferred call after 1 to 99 minutes.

Further steps:

– *Save your settings before you leave the page.*

Switching the CCBS Option for External Callers On/Off

If the CCBS option for external callers is enabled, the PBX allows an external caller to request a callback if the connection dialled is busy.

> **Note:** If the function has been initiated, the caller's telephone is signaled when a line that was previously busy becomes available.

Switching this on/off can be done as follows:

- Separately for external S_0 ports
- Via the configuration manager

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option) in the connection type point-to-point connection*

– *Service feature CCBS (callback on busy) is enabled by the network provider.*

– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the ISDN connection in question.

   A page opens for configuring the ISDN connection.
3. Open the page **ISDN connection > Name and functions**.
4. Select or clear the **CCBS** check box.

   ☑ Enables the CCBS option for external callers.

   ☐ Disables the CCBS option for external callers.

Important: If the function is enabled although the network provider does not support the function (the service attribute has not been enabled), it is possible that a caller may be offered the callback option. However, the caller's response is not forwarded to the PBX and the function is not executed.

Further steps:
– *Save your settings before you leave the page.*

Switching the CCNR Option for External Callers On/Off

If the CCNR option for external callers is enabled, the PBX allows an external caller to request a callback if the call is not picked up.

Note: If the function is enabled, the caller's telephone is signaled when an action has taken place on the subscriber previously dialled.

Switching this on/off can be done as follows:

- Separately for external S_0 ports
- Via the configuration manager

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option) in the connection type point-to-point connection*
– *Service feature CCNR (callback on no reply) is enabled by the network provider.*
– *Configuration manager, opened with sufficient authorization*
– *Expert view (click E)*
– *Configured prefixes (country prefix and local area code)*

1. Open the page **CONFIGURATION > External numbers**.
2. In the list field at the top, select the ISDN connection in question.

   A page opens for configuring the ISDN connection.
3. Open the page **ISDN connection > Name and functions**.
4. Select or clear the **CCNR** check box.

   ☑ Enables the CCNR option for external callers.

   ☐ Disables the CCNR option for external callers.

Important: If the function is enabled although the network provider does not support the function (the service attribute has not been enabled), it is possible that a caller may be offered the callback option. However, the caller's response is not forwarded to the PBX and the function is not executed.

Further steps:

– *Save your settings before you leave the page.*

PBX Data

The COMpact 3000 is available as a German or an international model. Which model you have can be seen in the configuration manager. There, you can also enter a name and a description for the PBX.

Configuring the Country

By selecting the country, the PBX is automatically configured with the default settings which are necessary in the selected country (e.g., settings for analog ports, emergency numbers).

> **Note:** The current setting is displayed on the page **SERVICE > Info > PBX data** under **Country**.

The configuration can be made as follows:

- Via the configuration manager

Requirements:
– *International model of COMpact 3000*
– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Server configuration > Access and PBX data**.

> **Note:** The country is also configured when the PBX is activated during the initial configuration.

2. In the **Country** list field under **PBX**, select the country you want.

Further steps:
– *Save your settings before you leave the page.*

Entering PBX Name and Description

You can enter the PBX name and PBX description for your own information.

Note: The PBX name is displayed in the login window.

The entry can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **CONFIGURATION > Server configuration > Access and PBX data**.

   Note: The country is also configured when the PBX is activated during the initial configuration.

2. Enter a name in the **PBX name** entry field under **PBX**. The following entries are possible:

   Up to 16 digits

   Digits and characters

3. Enter the required information in the **PBX description** entry field under **PBX**. The following entries are possible:

   Up to 120 digits

   Digits and characters

Further steps:

– *Save your settings before you leave the page.*

Service and Maintenance

This section describes useful service functions, among other things.

Topics

– Status Displays (page 492)
– Restart (page 496)
– Firmware Update (page 500)
– Backing Up and Recovering Configuration Data (page 505)
– Remote Configuration and Alternative Connection Options (page 513)
– Factory Settings (page 535)
– Powering Down (page 537)
– Ejecting a Storage Medium (page 538)
– Expanding the PBX (page 539)
– Service Data (page 544)

Status Displays

To control the operating state, the PBX provides various status displays.

Status Displays on the LEDs

The LED display field on the unit is used to keep track of the operating state.

> **Note:** If ECO mode (Energy Savings Function) is enabled, all of the LEDs are disabled and no display is possible. Exception: In **only "Power" LED on** ECO mode, all of the LEDs, except for the "Power" LED, are disabled. This is not lit constantly, but flashes slowly in green.

"Line" LED:	**Operational/busy state of the existing exchange lines**
Off	At least one call channel is not ready. (This overridden by display of the busy state.)
Lit in green	All call channels are ready and available.
Flashes green	COMpact 3000 VoIP: The connection to a modem (DSL, cable, sat) exists. No VoIP account has been registered.
Flashes orange	At least one call channel is being used.
Lit in orange	All call channels are being used.

"Messages" LED:	**Status of the message memory:**
Off	There are no messages.
Lit in green	There are no new messages. All existing messages have been viewed, but not yet deleted.
Flashes green	There is at least one new message that has not yet been read.
Flashes red	The message memory is full.

"WAN" LED:	**Status of the Ethernet interface (only for the COMpact 3000 VoIP, Ethernet port WAN):**
Off	No Ethernet connection to a computer/network exists.
Lit in green	An Ethernet connection to a computer/network exists.
Flashes green	An Ethernet connection exists and packets are being transmitted.

"LAN" LED:	**Status of the Ethernet interface (COMpact 3000 VoIP with two Ethernet ports LAN):**
Off	No Ethernet connection to a computer/network exists.
Lit in green	An Ethernet connection to a computer/network exists. (COMpact 3000 VoIP: there is a connection on at least one port).
Flashes green	An Ethernet connection exists and packets are being transmitted (COMpact 3000 VoIP: packets are being transmitted on at least one port).

"Power" LED:	**PBX status (after restart):**
Lit in red	The boot partition is being tested.
Lit in orange	The hardware data and the kernel are being loaded from the partition.
Flashes orange	The kernel drivers are being loaded.
Lit in orange	The PBX application is being started.
Lit in green	The PBX is ready for operation.

"Power" LED:	**Status on the PBX (in the case of an error):**
Off	No power supply is present.
Flashes red (1/1 s)	No valid boot partition was found. System is paused.

Note: If the "Power" LED remains constantly lit even after a restart, an error has occurred. Please contact your dealer or the manufacturer directly.

"Power" LED:	**Menu prompt (after pressing the "Default" button):**
Flashes red quickly (50/ 50 ms)	Pressing the "Default" button is detected.
Flashes red slowly (0.5/ 0.5 s)	The "Default" button was pressed for more than 5 seconds. Releasing the button starts the update image.
Flashes red (0.05/1 s)	The "Default" button was pressed for more than 10 seconds; releasing the button restores the factory settings.
Lit in red	The "Default" button was pressed for more than 15 seconds; the PBX restarts without changes.

Note: If you have started the update image by pressing the "Default" button, you will see the following LED signals after restart: The "Messages" LED lights up in green, the "Line" LED flashes green and the "Power" LED is off.

Status Displays via the Configuration Manager

The configuration manager provides various overviews that display the current status on the PBX.

Note: Further overviews of the current settings are described in the corresponding function sections.

Overview of the PBX/Dealer Data

The overview of the PBX data includes the current firmware version, the serial number as well as the MAC address on the PBX.

Note:

The overview can be viewed in the configuration manager by opening the page **SERVICE > Info > PBX data** or by clicking the Auerswald logo. If the PIN for logging onto the configuration manager is unknown, the login dialog can be canceled by clicking **Cancel** and a simplified overview can be viewed by clicking the Auerswald logo. The current firmware version and the serial number are already displayed in the login dialog.

For informational purposes, the dealer providing the PBX enters his own data on the page **SERVICE > Info > Dealer data**.

Port Overview

The port overview shows the previously configured and the permanently-specified ports on the PBX. In addition, the columns TCP (Transmission Control Protocol) and UDP (User Datagram Protocol) show which transport protocols are used.

Note:

The overview can be viewed in the configuration manager by opening the page **SERVICE > Port overview**.

A reduced overview (port name, direction, PBX port and receiver port) can also be configured as an element on the portal page (**Port overview**).

Call Channel Status Overview

The "Line" LED indicates whether external calls are still in progress. The overview of the call channel status gives you a more detailed view.

The status of the call channel is indicated by a colored dot.

Red	Call channel is being used.
Green	Call channel is available.

Note:

The overview can be opened in the configuration manager by selecting **External call channel assignment** in the list field next to and then clicking . To close the overview, click **Close**.

The overview can be printed by clicking **Print**.

The overview can also be configured as an element on the portal page (**External call channel assignment**).

Restart

A restart (reboot) is when you cause the PBX to reboot while it is already functioning. The configuration of the PBX is not deleted.

Variants of Restart

A restart is required, for example, in the following situations:

- After the operating software on the PBX has been updated (firmware update)
- After the operating software on the PBX crashes
- After a change to the configuration that cannot be applied when the PBX is in operation

In some cases, the PBX immediately performs an automatic restart.

There are also various options for performing a restart yourself when necessary. The variants are differentiated as follows:

Immediate Restart

During an immediate restart, no consideration is made of existing calls. This means that all connections to the Web server, all calls and all data services closed immediately. Unsaved data is lost.

Delayed Restart

A delayed restart runs just like an immediate restart, except that current calls are taken into consideration. As soon as all of the existing calls have ended (also before the expiration of the time specified), the PBX restarts. During the delay, the PBX prevents new calls from being established. If a call is still active when the timeout occurs, the call is interrupted in order to carry out the restart.

Restart via SD Card

If, for instance, an error occurs during a firmware update, the PBX is restarted after inserting an SD card on which the current firmware is saved. Finally, the PBX runs with the firmware saved on the SD card.

Causes of an Automatic Restart

An automatic restart executed after the following functions are carried out:

- An instant firmware update
- A factory settings restoration
- Saving Configuration Data for Automatically Loading from the Data Storage Medium in the PBX
- Restoring Configuration Data from a Restoration Point
- A configuration reset

> **Note:** Resetting the configuration requires only a limited restart. Only some of the PBX functions are restarted. All calls are ended, and all data services are closed. The Web server remains unaffected by this.

Performing a Restart

Performing this procedure can be carried out as follows:

- Via the configuration manager
- By pressing a button

Restarting Immediately or Delayed via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **SERVICE > Firmware update/restart > Restart/firmware update**.
2. In the list field under **Restart of the PBX (Reboot)**, select one of the following options:

   immediately: The restart is carried out immediately.

   1 to **60**: After 1 to 60 minutes, the restart is automatically activated.
3. Click **Restart** under **Restart of the PBX (Reboot)**.

   The "Power" LED remains lit in green until all of the calls or at the latest until the end of the waiting time.

   The "Power" LED lights up/flashes in red and orange for up to two minutes.

If the "Power" LED lights up in green again, the restart is complete and the PBX is ready for operation.

Note: If the "Power" LED remains continuously lit in red, an error has occurred. Please contact your dealer or the manufacturer directly.

Performing a Restart Immediately by Pressing a Button

Requirements:

– *Cover panel is removed*

Warning: Touching voltage-carrying conductors or telephone connections may cause a life-threatening electric shock.

- For some installation and maintenance work, it is necessary to open the PBX while it is in operation. Close the casing after completing this work.

Warning: Power surges, which can occur during electrical storms, can cause life-threatening electric shocks

- Do not open the PBX during an electrical storm.

---

1. Press the **"Reset"** button.

   The "Power" LED lights up/flashes in red and orange for up to two minutes.

   If the "Power" LED lights up in green again, the restart is complete and the PBX is ready for operation.

Note: If the "Power" LED remains continuously lit in red, an error has occurred. Please contact your dealer or the manufacturer directly.

Performing a Restart Due to Errors via the SD Card

Requirements:

– *An SD card with current firmware in the root directory*

1. Insert the SD card into the SD card slot on the PBX.
2. Restart the PBX via the configuration manager or by pressing a button.

   The "Power" LED lights up/flashes in red and orange for up to two minutes.

   If the "Power" LED lights up green again, the restart is completed. The PBX runs with the firmware saved on the SD card.

   Note: If the "Power" LED remains continuously lit in red, an error has occurred. Please contact your dealer or the manufacturer directly.

Further steps:

– *Carry out a firmware update back to a functioning firmware version, remove the SD card and restart the PBX.*

Firmware Update

When firmware is updated, errors are corrected or new features are installed. To do this, the device establishes a connection to a server in order to download the most current firmware (the device settings remain intact). Except for the charges for the required server connection, the update is free of charge.

Firmware Update Variants

There are various options for carrying out a firmware update. The variants are differentiated as follows:

Manual Firmware Update

When a manual firmware update is carried out, a file (*.rom) is uploaded into the configuration manager in the PBX thereby saving the new firmware in the PBX.

Instant Firmware Updates via the Update Server

When an instant firmware update is activated via the update server, the firmware update is initiated automatically. After a connection to the update server has been established, the server sends the latest firmware to the PBX.

Initiating a Manual Firmware Update

Initiation can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *A firmware file (*.rom) saved on a data storage medium (PC)*

> **Note:** You can download the firmware file from the support pages at the Auerswald web site (Internet address: www.auerswald.de).

1. Open the page **SERVICE > Firmware update/restart > Firmware update**.
2. Click **Browse** (this text is dependent on the operating system used) under **Manual firmware update**.

   A file selection dialog opens.
3. Select the file you want (*.rom) and click **Open** (this text is dependent on the operating system used).

   The path and the file name are displayed in the **Firmware file** field.
4. Click **Store in PBX**.

   The firmware update is started. As soon as the firmware file has been saved in the PBX, you will receive a message.

Further steps:

– *In order to use new features after a firmware update, you normally need a new version of the operating manual. This is available per download from the support pages at the Auerswald web site (Internet address: www.auerswald.de).*

Initiating an Instant Firmware Update via the Update Server

Initiation can be carried out as follows:

- Via the configuration manager

Requirements:

– *The PBX connected to broadband Internet access*
– *Configuration manager, opened with sufficient authorization*
– *Configured address of the update server*
– *A configured DNS server and, if necessary, an HTTP proxy server*

1. Open the page **SERVICE > Firmware update/restart > Firmware update**.
2. Click **Start update** under **Instant firmware update**.

   The firmware update is performed.

Further steps:

– *In order to use new features after a firmware update, you normally need a new version of the operating manual. This is available per download from the support pages at the Auerswald website (Internet address: www.auerswald.de).*

Configuring the Update Server Address

The address for the update server must be configured for instant firmware updates via the update server. The factory settings are already configured with the address of the update server.

The configuration can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **SERVICE > Firmware update/restart > Firmware update**.
2. In the **Address of the update server** entry field under **Instant firmware update**, enter the address of the update server. The following entries are possible.

   Digits and characters

Further steps:

– *Save your settings before you leave the page.*

Replacing Defective Firmware

If the new firmware proves to be defective, the previous version can be restored by carrying out a new firmware update.

Important: The procedure described in the following is only necessary if a firmware update via the configuration manager is no longer possible.

Requirements:

– *Cover panel is removed*

Warning: Touching voltage-carrying conductors or telephone connections may cause a life-threatening electric shock.

- For some installation and maintenance work, it is necessary to open the PBX while it is in operation. Close the casing after completing this work.

Warning: Power surges, which can occur during electrical storms, can cause life-threatening electric shocks

- Do not open the PBX during an electrical storm.

Important: This function requires performing the steps rapidly. Make sure you are comfortable with the procedure before you begin.

1. Press the **"Reset"** button.
2. Press the **"Default"** button within 2 seconds and hold it down between 5 and 10 seconds.

   The "Power" LED starts to quickly blink in red.

   After a few seconds, the blinking of the "Power" LED will slow down.
3. Let go of the **"Default"** button.

   The PBX restarts with the update image. In this state, the "Messages" LED lights up in green, the "Line" LED blinks green and the "Power" LED is off. Telephoning or configuration is no longer possible.

   Important: If you release the "Default" button too late (the "Power" LED no blinks slowly, but flashes), the PBX restarts in factory settings. You can bypass this by keeping the button pressed for another 5 seconds until the LED stops flashing.

   Note: If you have accidentally start the update image, you can resolve this by restarting the PBX. Press the "Reset" button briefly.
4. Enter the permanent IP address **169.254.1.240** in the address field of your browser in order to establish access to the PBX.

   Note: If the address in the network is not reachable, you need to connect the PBX directly to a PC.

   Instead of the configuration manager, a page opens that you can use to carry out a firmware update or restore the previous state.

Further steps:

– Carry out a firmware update back to a functioning firmware version.

Starting the PBX with Alternate Firmware

The COMpact 3000 VoIP can be operated with alternate firmware to allow you to use custom features. The web site www.askozia.com has Asterisk-based AskoziaPBX firmware images available for download free of charge (Open Source).

Note: The warranty claims apply only to original Auerswald firmware.

Requirements:

– *Alternate firmware support (only on the COMpact 3000 VoIP)*

– *SD card with an alternate firmware image (alternat.img) in the root directory*

1. Insert the SD card into the SD card slot on the PBX.
2. Restart the PBX via the configuration manager or by pressing a button.

   The PBX starts with the alternate firmware running.

Important: If you would like to operate the PBX with the original firmware again, remove the SD card and restart the PBX. As long as the SD card containing the alternate firmware image is in the SD card slot on the PBX, the alternate firmware will be started every time the PBX is restarted.

Backing Up and Recovering Configuration Data

The current configuration data on the PBX can be backed up in a configuration file on the PC or on a data storage medium. If necessary, this configuration file can be saved in the PBX again in order to restore the old configuration data.

When the configuration file is created, there is the option of saving the configuration data without any network settings or PBX data so that the configuration file can also be saved in other PBXs.

Variants for Backing Up and Recovering Configuration Data

There are various options for backing up the configuration data on the PBX and, if necessary, restoring it. The variants are differentiated as follows:

Saving and Reading Out the Configuration Data

The current configuration data on the PBX can be saved in a configuration file ("PBX name_date.cfg") on the PC. If necessary, the file can be saved in the PBX again in order to restore an old configuration.

In addition to the configuration, the configuration data also include the network settings and PBX data. In expert view you can switch on or off the application or the readout of the network settings or PBX data.

The network settings include the following data:

- Ethernet configuration (DHCP client setting, IP address, Sub-network mask, Gateway)
- DNS configuration (First DNS server, Second DNS server)
- HTTP proxy configuration (HTTP proxy settings)
- PPP configuration (Local IP address, Remote IP address)
- Port of the webserver

The PBX data include the following data:

- PBX name
- Admin user name
- Admin PIN
- Dealer data
- Country

Automatic Loading

Current configuration data on a PBX can be saved in a configuration file ("auconfig.cfg") on a data storage medium (e.g., a USB memory stick). It is possible to save this configuration data in another PBX set to factory settings.To do this, the data storage medium is inserted in the disabled PBX and the PBX is then switched on. The configuration data on the data storage medium is automatically saved in the PBX.

Restoration Points

If a restoration point for the configuration data is set, the current configuration data is saved in a configuration file in the PBX. The configuration files are archived with information about the time and date they were created.

A maximum of ten restoration points are set. If an eleventh restoration point is set, the oldest of the current restoration points is overwritten.

An old configuration can be restored by loading a restoration point. The option as to whether the network settings should be restored can also be selected.

Note: A restoration point is automatically inserted at every firmware update.

Saving Configuration Data from the PC/Data Storage Medium in the PBX

The saving procedure can be carried out as follows:

- Via the configuration manager
- Using a character string on the internal telephone

Saving Configuration Data from the PC/Data Storage Medium into the PBX Via the Configuration Manager

---

Important: Saving an old configuration overwrites the current configuration data.

Note: A configuration file that was created with an older firmware version, may possibly not contain all of the configuration data (for example, data for new functions that were added by a firmware update).

Requirements:

– *Configuration manager, opened with sufficient authorization*
– *A configuration file (*.cfg) saved on a data storage medium (PC)*
– *For the settings **Apply network settings** and **Apply PBX data**: Expert view (click E)*

1. Open the page **SERVICE > Data backup > Save and read out configuration data**.

   Note: The saving procedure is also provided during the quick configuration using the configuration wizard.

2. Click **Browse** (this text is dependent on the operating system used) under **Store configuration data in the PBX**.

   A file selection dialog opens.

3. Select the file (*.cfg) you want and click **Open** (this text is dependent on the operating system used).

   The path and the file name are displayed in the **Configuration file** field.

4. Select or clear the check box **Apply network settings** under **Store configuration data in the PBX**.

   ☑ The network settings are applied.
   ☐ The network settings are not applied.

5. Select or clear the check box **Apply PBX data** under **Store configuration data in the PBX**.

   ☑ The PBX data are applied.
   ☐ The PBX data are not applied.

6. Click **Store in PBX**.

   A confirm action dialog opens.

7. Click **Next**.

   The configuration data are saved in the PBX.

Saving the Configuration Data from the Data Storage Medium in the PBX via an Internal Telephone

Requirements:

– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
– *The configuration file (auconfig.cfg) saved on a USB memory stick or SD card saved*

Note: The configuration file must be named "auconfig.cfg".

1. Insert the USB memory stick into the USB port (USB host) or the SD card into the SD card slot on the PBX.
2. Pick up the receiver of the internal telephone.
3. Dial **##8**.
4. Enter the admin or sub-admin PIN.
5. Dial ***902#**.

   The configuration saved on the USB memory stick or on the SD card is saved in the PBX.

Saving Configuration Data for Automatically Loading onto a Data Storage Medium

Requirements:

– *A configuration file (*.cfg) saved on the PC*

1. Rename the configuration file saved on the PC to **auconfig.cfg**.
2. Save the configuration file **auconfig.cfg** in the root directory of a USB memory stick or on an SD card.

Further steps:

– *Save the configuration data for the automatic loading on the PBX.*

Saving Configuration Data for Automatically Loading from the Data Storage Medium in the PBX

The saving procedure can be carried out as follows:

- Via the PBX

Requirements:

– *PBX set to factory settings*

– *The configuration file (auconfig.cfg) saved on a USB memory stick or SD card saved*

Note: The configuration file must be named "auconfig.cfg".

1. Turn the PBX off.
2. Insert the USB memory stick into the USB port (USB host) or the SD card into the SD card slot on the PBX.
3. Turn the PBX on.

   The configuration data saved on the USB memory stick or on the SD card saved is automatically saved in the PBX. Finally, restart the PBX.

   If the "Power" LED lights up in green again, the restart is complete and the PBX is ready for operation.

Note: If the "Power" LED remains continuously lit in red, an error has occurred. Please contact your dealer or the manufacturer directly.

Saving Configuration Data on the PC

The saving procedure can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *For the settings **Read network settings** and **Read PBX data**: Expert view (click E)*

1. Open the page **SERVICE > Data backup > Save and read out configuration data**.

Note: The saving procedure is also provided during the quick configuration using the configuration wizard.

2. Select or clear the check box **Read network settings** under **Read configuration data from the PBX**.

   ☑ The network settings are read from the PBX.

   ☐ The network settings are not read from the PBX.

3. Select or clear the check box **Read PBX data** under **Read configuration data from the PBX**.

   ☑ The PBX data are read from the PBX.

   ☐ The PBX data are not read from the PBX.

4. Click **Read from PBX** under **Read configuration data from the PBX**.

   A dialog for downloading the configuration file "PBX name_date.cfg" opens.

5. Save the configuration file on the PC.

Inserting a Restoration Point for Configuration Data

The insertion can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **SERVICE > Data backup > Restoration points**.

   Note: The insertion is also provided during the quick configuration using the configuration wizard.

2. Click **Insert restoration point**.

   A confirm action dialog opens.

3. Click **Next**.

   The restoration point is inserted. It is available in the **Configuration file** list field under **Restore old configuration data**.

Restoring Configuration Data from a Restoration Point

The restoration can be carried out as follows:

- Via the configuration manager

Important: Restoring an old configuration overwrites the current configuration data.

Note: A configuration file that was created with an older firmware version, may possibly not contain all of the configuration data (for example, data for new functions that were added by a firmware update).

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Inserted restoration point*

1. Open the page **SERVICE > Data backup > Restoration points**.

Note: The restoration is also provided during the quick configuration using the configuration wizard.

---

2. In the **Configuration file** list field under **Restore old configuration data**, select the restoration point for which configuration data should be restored.
3. Select or clear the check box **Restore network settings** under **Restore old configuration data**.
   - ☑ The network settings are restored.
   - ☐ The network settings are not restored.
4. Click **Restore**.

   A confirm action dialog opens.
5. Click **Next**.

   The configuration data is restored at the restoration point. The PBX restarts.

Resetting the Configuration

When resetting the configuration, the following parameters are maintained—in contrast to a reset of the ex-factory state:

- Admin user name and PIN
- IP address settings
- Web server port setting
- Time
- NTP server settings
- Saved hold music and announcements
- Call data
- Voice messages and faxes

The reset can be carried out as follows:

- Via the configuration manager

Requirements:

– Configuration manager, opened with sufficient authorization

1. Open the page **SERVICE > Data backup > Reset configuration**.
2. Click **Reset** under **Reset configuration**.

   A confirm action dialog opens.
3. Click **Next**.

   The configuration is reset.

Remote Configuration and Alternative Connection Options

Aside from configuration over the internal network, there is also the option of remote configuration via the Internet as well as configuring alternative connection options under certain conditions.

The connected system telephones can also be configured over the PBX under certain conditions.

Possible Connection Options for Configuring the PBX and the Connected ISDN System Telephones

The following connection options are possible for configuring or remotely configuring the PBX and the connected ISDN system telephones:

Configuration of the PBX via the Internal Network

The PBX is normally configured via an internal network connection. The PC used for this must be located on the same network as the PBX.

Remote Configuration of the PBX via the Internet

The PBX can be configured remotely via an Internet connection (DSL). This requires a permanent external IP address or alternatively VPN or DynDNS. The routers on the PBX network must be configured for this purpose accordingly.

Configuration of the PBX via an Internal S_0 Port (PPP Internal)

> **Important:** This function is only possible with the COMpact S_0 module or COMpact ISDN module available as an option.

The PBX can only be configured over an indirect internal or external ISDN connection on a device that is not only connected to an internal S_0 port on the PBX but also to a PC (ISDN PC controller or Auerswald USB device). The PBX must be configured for this purpose accordingly. A dial-up connection must also have been previously configured on the PC.

Remote Configuration on the PBX via the External S_0 Port (PPP External)

Important: This function is only possible on the COMpact 3000 ISDN or the COMpact ISDN module available as an option.

The PBX can only be configured remotely over an indirect external ISDN connection on a device that is not only connected to the external S_0 port on the PBX but also to a PC (ISDN PC controller or Auerswald USB device). The PBX must be configured for this purpose accordingly. A dial-up connection must also have been previously configured on the PC.

Configuring an ISDN System Telephone via the PBX (Internal)

An ISDN system telephone can be configured via an indirect connection over the PBX. The configuration software COMfortel Set for the ISDN system telephone must be previously installed.

Configuring an ISDN System Telephone Remotely via the External S_0 Port on the PBX

Important: This function is only possible on the COMpact 3000 ISDN the COMpact ISDN module available as an option.

An ISDN system telephone can be configured remotely over the PBX and one device that is connected to both the external S_0 port on the PBX and a PC (ISDN PC controller or Auerswald USB device). The PBX must be configured for this purpose accordingly. The configuration software for the ISDN system telephone must have been previously installed.

Configuring the PBX Remotely via the Internet (Externally)

Requirements:

– *Existing Internet connection between the computer and the PBX (DSL)*
– *Permanent external IP address, or the use of VPN or DynDNS*
– *A router configured for this purpose*

Note:

Refer to the operating manual of your router.

The access is possible via **http:** and via **https:** (encrypted access).

Important: An internal network is usually protected from actions from the outside by, for example, a firewall integrated in the router. For questions about configuring your firewall, contact the system administrator responsible for this topic.

1. Start a browser (for example, Mozilla Firefox).
2. Enter **http://** and the external IP address for the PBX as well as the **:** character. and then the port into the address field of the browser.

   The login window opens.
3. Enter your user name and PIN.
4. Click **Log in**.

   The configuration manager opens.
5. Make the desired changes.

Configuring the PBX via an Internal S_0 Port (PPP Internal)

Important: Before you can configure the PBX remotely via a dial-up connection, the required configurations must first be made via an internal network connection.

Requirements:

– *Internal S_0 port (only provided on the COMpact S_0 module or COMpact ISDN module available as an option)*
– *Configured internal CAPI dial-in number*
– *Configured local and remote IP addresses*
– *Knowledge of the sub-admin PIN or admin PIN*

Note: The external PIN may also be used for the dial-up connection. The user PIN can also be used to log in.

– *An existing internal ISDN connection between the PC and the PBX over an Auerswald USB device (e.g., COMfortel 2500) or an ISDN PC controller including the complete installation of the drivers required for the device on the PC*

Note: For an Auerswald USB device, this refers to the USB, the CAPI-2.0 and CoNDIS-WAN drivers. To install the drivers, refer to the **Instructions for Installing Drivers and Establishing Internet Access (CAPI/TAPI)** that came with the device.

– *The dial-up connection configured on the computer*

Note: The following steps describe how to configure the settings on the operating systems, Windows XP, Vista and 7. If using another operating system or one with significant differences to the basic settings, refer to the documentation of your operating system.

---

1. Click **Start**.
2. Depending on the operating system, proceed as described in the following.
   - Windows XP: Click **Connect to** and then select the name of the connection.
   - Windows Vista: Click **Connect to**, then select the name of the connection, and then finally click **Connect**.
   - Windows 7: Click **Control Panel**, **Connect to the Internet**, then select the name of the connection, and then finally click **Next**.

   The connection dialog window now opens.
3. Under **Password**, enter the PIN for the user name displayed.
4. Click **Dial**.

   The connection symbol (one monitor/two monitors) in the task bar (to the left next to the time) indicates whether the connection is active.
5. Start a browser (e.g., Mozilla Firefox).
6. Enter **http://** and the local IP address of the PBX (factory setting: 192.168.193.240) in the address field of the browser.

   The login window opens.
7. Enter your user name and PIN.

Note: The PIN entered here determines the authorization level for the configuration. The external PIN cannot be used here.

---

8. Click **Log in**.

   The configuration manager opens.

9. Make the desired changes.

   Note: When the PBX is restarted, the dial-up connection disconnects and you must dial into the PBX again.

10. Once you have completely configured the PBX, click **Logout**.

11. Then, disconnect the dial-up connection. To do this, right-click the connection symbol in the task bar, click **Disconnect** or **Disconnect from** and then select the name of the connection.

Configuring the PBX Remotely via an External S_0 Port (PPP External)

Important: Before you can configure the PBX remotely via a dial-up connection, the required configurations must first be made via an internal network connection.

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*
– *Configured remote switching number*

Note: If no remote switching number has been configured, the PBX must be activated for remote configuration using a digit sequence on an internal telephone. After this, the PBX is accessible over each associated MSN/DDI.

– *Configured dealer access number*

Note: If no dealer access number has been configured or the telephone number transmitted does not correspond with the configured telephone numbers, the PBX must be activated via an internal telephone using a digit sequence for remote configuration.

– *Configured local and remote IP addresses*
– *Knowledge of the sub-admin PIN or admin PIN*

Note: The external PIN may also be used for the dial-up connection. The user PIN can also be used to log in.

– *An existing external ISDN connection between the PC and the PBX over an Auerswald USB device (e.g., COMfortel 2500) or an ISDN PC controller including the complete installation of the drivers required for the device on the PC*

Note: For an Auerswald USB device, this refers to the USB, the CAPI-2.0 and CoNDIS-WAN drivers. To install the drivers, refer to the driver installation and Internet access instructions (CAPI/TAPI) that came with the device.

– *The dial-up connection configured on the computer*
– *Release the PBX immediately before remote configuration if no dealer access number has been configured or the transmission of the configured numbers is not possible on the computer being used.*

Note: The following steps describe how to configure the settings on the operating systems, Windows XP, Vista and 7. If using another operating system or one with significant differences to the basic settings, refer to the documentation of your operating system.

---

1. Click **Start**.
2. Depending on the operating system, proceed as described in the following.
   - Windows XP: Click **Connect to** and then select the name of the connection.
   - Windows Vista: Click **Connect to**, then select the name of the connection, and then finally click **Connect**.
   - Windows 7: Click **Control Panel**, **Connect to the Internet**, then select the name of the connection, and then finally click **Next**.

   The connection dialog window now opens.
3. Under **Password**, enter the PIN for the user name displayed.
4. Click **Dial**.

   The connection symbol (one monitor/two monitors) in the task bar (to the left next to the time) indicates whether the connection is active.
5. Start a browser (e.g., Mozilla Firefox).

6. Enter **http://** and the local IP address of the PBX (factory setting: 192.168.193.240) in the address field of the browser.

   The login window opens.

7. Enter your user name and PIN.

   Note: The PIN entered here determines the authorization level for the configuration. The external PIN cannot be used here.

8. Click **Log in**.

   The configuration manager opens.

9. Make the desired changes.

   Note: When the PBX is restarted, the dial-up connection disconnects and you must dial into the PBX again.

10. Once you have completely configured the PBX, click **Logout**.

11. Then, disconnect the dial-up connection. To do this, right-click the connection symbol in the task bar, click **Disconnect** or **Disconnect from** and then select the name of the connection.

Configuring ISDN System Telephones via the PBX (Internal)

Requirements:

– *Installed COMfortel Set configuration software as of version 2.5*
– *Knowledge of the user, sub-admin or admin PIN*
– *An existing Ethernet connection between the PC and the PBX or a USB connection on the PC to one of the internal system telephones including the complete installation of the drivers required for the device on the PC*

  Note: For a USB connection, this refers to the USB driver and possibly the CAPI-2.0 driver. To install the drivers, refer to the driver installation and Internet access instructions (CAPI/TAPI) that came with the device.

– *For the Ethernet connection between the PC and the PBX: Configured configuration port for system telephones*

1. Start the COMfortel Set configuration software.
2. Open the menu **Options > Interface...**.
3. Depending on the existing connection, proceed as described in the following.
   - USB connection: In the **Interface** list field, select the **USB** option.
   - USB connection using the CAPI-2.0 driver installed: In the list field **Interface**, select the **ISDN card (CAPI 2.0)** option.
   - Ethernet connection via the PBX: In the **Interface** list field, select the **IP network** option, and then in the **IP address** entry field, enter the IP address of the PBX and in the **IP port (Default: 7002)** entry field, enter the configuration port for system telephones on the PBX.
4. Click **OK**.
5. Open the menu **File > Open**.
6. Click **Telephone**.

   The **Connection routes** dialog opens with the devices connected via the configured interface.
7. If necessary, double-click the PBX symbol to display all the connected system telephones. Select the telephone whose configuration you would like to open and click **OK**.

   The **PIN entry** dialog opens.
8. Select the desired authorization level from the **Authorization level** list field.
9. Enter the associated PIN in the **PIN** entry field and click **OK**.

   The configuration is loaded from the telephone. This may take a while.
10. Make the desired changes.

    Once you have configured all the changes to your satisfaction, first save the configuration as described in the following as a file on a storage medium (PC) and then in the telephone.
11. Open the menu **File > Save**.
12. Click **File**.

    A file location dialog opens.
13. Select the directory in which you would like to save the file.

14. Enter a filename with the ending .cf2 and click **Save** (this text is dependent on the operating system used).

15. Open the menu **File > Save**.

16. Click **Telephone**.

    The **Connection routes** dialog opens with the devices connected via the configured interface.

17. Select the telephone on which you would like to save the configuration and click **OK**.

    The **PIN entry** dialog opens.

18. Enter the associated PIN in the **PIN** entry field and click **OK**.

    The configuration is saved on the telephone. This may take a while.

Configuring ISDN System Telephones Remotely via the External S_0 Port on the PBX (Externally)

Important: Before you can configure the system telephones remotely, the required configurations must first be made via an internal network connection on the PBX.

Requirements:

– *External S_0 port (only COMpact 3000 ISDN or COMpact ISDN module available as an option)*

– *Configured remote switching number for system telephones*

Note: If no remote switching number for system telephones has been configured, the PBX must be activated for remote configuration using a digit sequence on an internal telephone. After this, the PBX is accessible over each associated MSN/DDI.

– *Configured dealer access number*

Note: If no dealer access number has been configured or the telephone number transmitted does not correspond with the configured telephone numbers, the PBX must be activated via an internal telephone using a digit sequence for remote configuration.

– *Installed COMfortel Set configuration software as of version 2.5*
– *Knowledge of the user, sub-admin or admin PIN*
– *An existing external ISDN connection between the PC and the PBX over an Auerswald USB device (e.g., COMfortel 2500) or an ISDN PC controller including the complete installation of the drivers required for the device on the PC*

> **Note:** For an Auerswald USB device, this refers to the USB, the CAPI-2.0 and CoNDIS-WAN drivers. To install the drivers, refer to the driver installation and Internet access instructions (CAPI/TAPI) that came with the device.

– *Release of the PBX immediately before remote configuration if no dealer access number has been configured or the transmission of the configured numbers is not possible on the computer being used*

1. Start the COMfortel Set configuration software.
2. Open the menu **Options > Interface...**.
3. In the **Interface** list field, select the **ISDN card (CAPI 2.0)** option.
4. Click **OK**.
5. Open the menu **File > Open**.
6. Click **Telephone**.
7. Enter the remote switching number for system telephones (including local city code and exchange line access number), and click **OK**.

   The **Connection routes** dialog opens with the devices connected via the configured interface.
8. If necessary, double-click the PBX symbol to display all the connected system telephones. Select the telephone whose configuration you would like to open and click **OK**.

   The **PIN entry** dialog opens.
9. Select the desired authorization level from the **Authorization level** list field.
10. Enter the associated PIN in the **PIN** entry field and click **OK**.

    The configuration is loaded from the telephone. This may take a while.
11. Make the desired changes.

Once you have configured all the changes to your satisfaction, first save the configuration as described in the following as a file on the hard drive and then in the telephone.

12. Open the menu **File > Save**.
13. Click **File**.

    A file location dialog opens.
14. Select the directory in which you would like to save the file.
15. Enter a filename with the ending .cf2 and click **Save** (this text is dependent on the operating system used).
16. Open the menu **File > Save**.
17. Click **Telephone**.

    The **Connection routes** dialog opens with the devices connected via the configured interface.
18. Select the telephone on which you would like to save the configuration and click **OK**.

    The **PIN entry** dialog opens.
19. Enter the associated PIN in the **PIN** entry field and click **OK**.

    The configuration is saved on the telephone. This may take a while.

Configuring Local and Remote IP Addresses

The local IP address indicates which IP address is the one assigned to the PBX after a dial-up connection has been established (e.g., for the remote configuration) and is therefore the one to enter in the address field in the browser.

The remote IP address indicates which IP address is assigned to the PC after login for the duration of the session. This means that the computer and the PBX are on the same network and can communicate.

Important: If the factory-set remote IP address is already being used on the computer network, thereby causing IP addresses to overlap, complications will occur. To avoid this, you must change the remote IP address and therefore the local IP address at the same time. This should result in both IP addresses being again located on the same network.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **CONFIGURATION > Server configuration > Network**.
2. Enter the IP address in the **Local IP address** entry field under **PPP configuration**. The following entries are possible:

   IP address with a range of 0 to 255 (example: 103.103.103.103)
3. Enter the IP address in the **Remote IP address** entry field under **PPP configuration**. The following entries are possible:

   IP address with a range of 0 to 255 (example: 103.103.103.103)

Further steps:

– *Save your settings before you leave the page.*

Configuring the External PIN

The external PIN is required for the following:

- Perform a configuration switchover manually via an external telephone
- Monitor a room via an external telephone
- A dial-up connection for initiating remote configuration on the PBX if the user name "external" is used

The configuration can be made as follows:

- Via the configuration manager
- Using a character string on the internal telephone

Configuring an External PIN via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **SERVICE > Remote configuration**.
2. Enter the external PIN in the **External PIN** entry field under **Remote configuration (PPP) and remote programming**. The following entries are possible:

   Exactly 6 digits

   Digits

Note:

The PIN may not begin with a zero.

All of the PINs in the PBX are unique. This means that it is not possible to allocate the same PIN twice.

Do not use dates of birth or dates as PINs. This makes it easy for an attacker to find out the correct PIN. PINs which are easy to guess, such as 111111 or 123456, should also be avoided.

Further steps:
– *Save your settings before you leave the page.*

Changing a PIN Using an Internal Telephone

Requirements:
– *Authorization **Controlling of the PBX via telephone** assigned to the subscriber*
– *Configured external PIN*
– *Knowledge of the external PIN*

1. Pick up the receiver.
2. Dial ***99***.
3. Enter the existing external PIN.
4. Dial ***.
5. Enter the new external PIN. The following entries are possible:

   Exactly 6 digits

   Digits

Note:

The PIN may not begin with a zero.

All of the PINs in the PBX are unique. This means that it is not possible to allocate the same PIN twice.

Do not use dates of birth or dates as PINs. This makes it easy for an attacker to find out the correct PIN. PINs which are easy to guess, such as 111111 or 123456, should also be avoided.

6. Dial *****.
7. Reenter the new external PIN.
8. Dial **#**.

Note: If, at this point, you hear a busy tone instead of a confirmation tone, the new PIN may already be in use in the PBX and no change takes place. Re-attempt with another digit sequence.

Configuring the Remote Switching Number

The remote switching number is one of the telephone numbers available on one's own connection and is used to carry out the following tasks via the PBX:

- Perform a configuration switchover manually via an external telephone
- Monitor a room via an external telephone

In addition, the remote switching number is used as a dial-up phone number for a dial-up connection. This is used to configure the PBX remotely via an external ISDN connection.

Note: If no remote switching number has been configured, the PBX must be activated for remote configuration using a digit sequence on an internal telephone. After this, the PBX is accessible over each associated MSN/DDI.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

– *Configured external telephone numbers*

1. Open the page **SERVICE > Remote configuration**.
2. Select the telephone number you want from the **Remote switching number** list field under **Remote configuration (PPP) and remote programming**.

Note: This telephone number may not be rerouted using call forwarding.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Remote Switching Number for System Telephones

The remote switching number is one of the telephone numbers available on own's own connection and is used to carry out a remote configuration for an ISDN system telephone connected to the PBX.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

– *Configured external telephone numbers*

1. Open the page **SERVICE > Remote configuration**.
2. Select the telephone number you want from the **Remote switching number** list field under **Remote configuration of system telephones**.

Note: This telephone number may not be rerouted using call forwarding.

Further steps:

– *Save your settings before you leave the page.*

Configuring the Configuration Port for System Telephones

The configuration port (factory setting: 7002) for system telephones indicates which port on the PBX is used by the configuration software on the ISDN system telephone during the transmission.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **CONFIGURATION > Server configuration > Network**.
2. Enter a port in the **Configuration port for system telephones** entry field under **Webserver configuration**. The following entries are possible:

   1 to **65535**

Further steps:

– *Save your settings before you leave the page.*

Configuring Internal CAPI Dial-in Numbers

The Internal CAPI dial-in number is a telephone number that has been taken from the internal telephone number plan and is used as a dial-up phone number for a dial-up connection. This is used to configure the PBX remotely using an internal ISDN connection.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **SERVICE > Remote configuration**.

2. Enter an internal telephone number in the **Internal CAPI dial-in number** entry field under **Configuration (PPP internal)**. The following entries are possible:

   2 to 4 digits in the range of **10** to **9999**

Note:

Double allocation of a number is not possible.

The telephone numbers 70, 80, 87, 701-706, 801-806, 875-879 and 8750-8799 cannot be freely allocated. They are required for internal PBX use.

Using telephone numbers with few digits (two or three-digit numbers) inevitably restricts the possible supply of telephone numbers requiring more digits. For example, if the telephone number 12 is assigned, the telephone numbers 120-129 and 1200-1299 are no longer available.

The default exchange line access number on the PBX is "0" in the factory settings; however, this can be changed. Note that changing the exchange line access number restricts the telephone number plan.

Further steps:

– *Save your settings before you leave the page.*

Configuring Dealer Access Numbers

The dealer access numbers indicate from which connections the PBX can be remotely configured without manual activation. For this purpose, the PC connected to the PBX via an external ISDN connection must transmit one of the entered dealer access numbers.

Note: If no dealer access number has been configured or the telephone number transmitted does not correspond with the configured telephone numbers, the PBX must be activated via an internal telephone using a digit sequence for remote configuration.

The configuration can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Expert view (click E)*

1. Open the page **SERVICE > Remote configuration**.
2. In the entry fields **Dealer access number 1** to **Dealer access number 4** under **Authorization for remote configuration (PPP)**, enter one external telephone number along with the local area code in each field (local dialling code). The following entries are possible:

   Up to 20 digits

   Digits

Further steps:
– *Save your settings before you leave the page.*

Configuring a Dial-up Connection on the PC

The PBX supports the transmission of configuration data by remote data transmission (dial-up). This can take place over an indirect internal or external ISDN connection on a device that is not only connected to an internal or external S_0 port on the PBX but also to a PC (ISDN PC controller or Auerswald USB device). The PBX must be configured for this purpose accordingly. A dial-up connection must also have been previously configured on the PC.

Note: The following steps describe how to configure the PC on the operating systems, Windows XP or Vista. If using another operating system or one with significant differences to the basic settings, refer to the documentation of your operating system.

Configuring a Dial-up Connection on Windows XP

Requirements:
– *For configuration via the internal S_0 port: Configured internal CAPI dial-in number*
– *For remote configuration via the external S_0 port: Configured remote switching number*
– *Knowledge of the external PIN, the sub-admin PIN or admin PIN*

1. Click **Start**.
2. Click **All Programs**.
3. Click **Accessories**.

4. Click **Communications**.
5. Click **New Connection Wizard**.
6. Click **Next**.
7. Click **Connect to the Internet** and then click **Next**.
8. Click **Set up my connection manually** and then click **Next**.
9. Click **Connect using a dial-up modem** and then click **Next**.

   The available dial-up devices are displayed.
10. Select the check box for the connection you want and click **Next**.
11. Under **ISP Name**, enter any connection name, for example, "PBX + [customer name]" and click **Next**.
12. Depending on the desired configuration to be made, proceed as described in the following.
    - For configuration via the internal S_0 port: Under **Telephone number**, enter the internal CAPI dial-in access number on the PBX and click **Next**.
    - For remote configuration via the external S_0 port: Under **Telephone number**, enter the remote switching number (including local area code and exchange line access number) on the PBX and click **Next**.
13. Depending on the PIN available, proceed as described in the following.
    - For an external PIN: Under **User name**, enter "external" and under **Password** as well as under **Confirm password**, enter the external PIN on the PBX.
    - For an admin PIN: Under **User name**, enter "admin" and under **Password** as well as under **Confirm password**, enter the admin PIN on the PBX.
    - For a sub-admin PIN: Under **User name**, enter the internal telephone number of a sub-admin, and under **Password** as well as under **Confirm password**, enter the associated sub-admin PIN.
14. Disable the check box for the three options offered and click **Next**.
15. Select the check box **Add a shortcut to this connection to my desktop**, and click **Finish**.

Configuring a Dial-up Connection on Windows Vista

Requirements:

– *For configuration via the internal S_0 port: Configured internal CAPI dial-in number*
– *For remote configuration via the external S_0 port: Configured remote switching number*
– *Knowledge of the external PIN, the sub-admin PIN or admin PIN*

1. Click **Start**.
2. Click **Connect to**.
3. Click **Set up a connection or network**.
4. Click **Set up a dial-up connection** and click **Next**.
5. Depending on the desired configuration to be made, proceed as described in the following.
   - For configuration via the internal S_0 port: Under **Dial-up phone number**, enter the internal CAPI dial-in access number on the PBX.
   - For remote configuration via the external S_0 port: Under **Dial-up phone number**, enter the remote switching number (including local area code and exchange line access number) on the PBX.
6. Depending on the PIN available, proceed as described in the following.
   - For an external PIN: Under **User name**, enter "external" and under **Password**, enter the external PIN on the PBX.
   - For an admin PIN: Under **User name**, enter "admin" and under **Password**, enter the admin PIN on the PBX.
   - For a sub-admin PIN: Under **User name**, enter the internal telephone number of a sub-admin, and under **Password**, enter the associated sub-admin PIN.
7. Under **Connection name**, enter any connection name, for example, "PBX + [customer name]" and click **Connect**.
8. Click **Skip**.
9. Click **Set up the connection anyway**.

Configuring a Dial-up Connection on Windows 7

Requirements:

– *For configuration via the internal S_0 port: Configured internal CAPI dial-in number*
– *For remote configuration via the external S_0 port: Configured remote switching number*
– *Knowledge of the external PIN, the sub-admin PIN or admin PIN*

1. Click **Start**.
2. Click **Control Panel**.
3. Click **Network and Internet**.
4. Click **Network and Sharing Center**.
5. Click **Set up a new connection or network**.
6. Click **Set up a dial-up connection** and click **Next**.
7. Depending on the desired configuration to be made, proceed as described in the following.
   - For configuration via the internal S_0 port: Under **Dial-up phone number**, enter the internal CAPI dial-in access number on the PBX.
   - For remote configuration via the external S_0 port: Under **Dial-up phone number**, enter the remote switching number (including local area code and exchange line access number) on the PBX.
8. Depending on the PIN available, proceed as described in the following.
   - For an external PIN: Under **User name**, enter "external" and under **Password**, enter the external PIN on the PBX.
   - For an admin PIN: Under **User name**, enter "admin" and under **Password**, enter the admin PIN on the PBX.
   - For a sub-admin PIN: Under **User name**, enter the internal telephone number of a sub-admin, and under **Password**, enter the associated sub-admin PIN.
9. Under **Connection name**, enter any connection name, for example, "PBX + [customer name]" and click **Connect**.
10. Click **Close**.

Release the PBX for Remote Configuration

Releasing can be carried out as follows:

- Using a character string on the internal telephone

1. Pick up the receiver.
2. Dial **##8**.
3. Enter the user PIN or the sub-admin PIN.
4. Dial ***91#**.

Factory Settings

The factory settings represent the condition of a device before it is configured using a computer or telephone.

Restore Factory Settings

If the factory settings on the PBX are restored, all of the settings are deleted or reset to the original settings before the device was first configured.

Requirements:

– *Cover panel is removed*

Warning: Touching voltage-carrying conductors or telephone connections may cause a life-threatening electric shock.

- For some installation and maintenance work, it is necessary to open the PBX while it is in operation. Close the casing after completing this work.

Warning: Power surges, which can occur during electrical storms, can cause life-threatening electric shocks

- Do not open the PBX during an electrical storm.

Important: This function requires performing the steps rapidly. Make sure you are comfortable with the procedure before you begin.

1. Press the **"Reset"** button.
2. Press the **"Default"** button within 2 seconds and hold it down between 10 and 15 seconds.

   The "Power" LED starts to quickly blink in red.

   After a few seconds, the blinking of the "Power" LED will slow down.

   After 10 seconds, the "Power" LED flashes.
3. Let go of the **"Default"** button.

   The factory settings are restored and the PBX restarts.

   If the "Power" LED lights up in green again, the restart is complete and the PBX is ready for operation.

Note:

If the "Power" LED remains continuously lit in red, an error has occurred. Please contact your dealer or the manufacturer directly.

If you release the "Default" button too early (while the "Power" LED is still blinking slowly), the PBX restarts with the update image. In this state, the "Messages" LED lights up in green, the "Line" LED blinks green and the "Power" LED is off. Telephoning or configuration is no longer possible. In order to resolve this state, you need to restart the PBX. Press the "Reset" button briefly.

If you release the "Default" button too late (the "Power" LED is no longer flashing), restart the PBX without making any changes.

Further steps:

– *Create a new configuration.*

Powering Down

If it is necessary to separate the PBX from the electric current (pull the power plug of the PBX out of the socket and also of the accessory equipment where required), the PBX will first have to be powered down properly.

Powering the PBX Down

Powering down can be carried out as follows:

- Via the configuration manager

> **Important:** When powering down the PBX, all of the connections to the Web server, all calls and all data services are terminated. Unsaved data is lost.

Requirements:

– *Configuration manager, opened with sufficient authorization*

1. Open the page **SERVICE > Firmware update/restart > Restart/power down**.
2. Click **Power down** under **Power down of the PBX**.

   The PBX is powered down.

Further steps:

– *As soon as the "Power" LED is lit in red, you can pull the power plug of the PBX and accessory equipment – if required – out of the socket.*

Ejecting a Storage Medium

To remove a storage medium (SD card or USB memory stick) from the PBX without losing any data, it must be ejected.

Ejection can be carried out as follows:

- Via the configuration manager

Requirements:

– *An SD card inserted in the SD card slot, USB memory stick or USB hard drive inserted in the USB port*

– *Configuration manager, opened with sufficient authorization*

1. Open the page **SERVICE > Memory > Storage medium**.
2. Click **Eject** under **Voice mail/fax boxes** or under **Network memory**.
3. Click **Next**.
4. Remove the corresponding storage medium from the PBX.

Note: The data on the inserted storage medium is listed on the page **SERVICE > Memory > Storage medium**, including information about the total disk space and the remaining capacity.

Expanding the PBX

Functions can be purchased in the Upgrade Center and added to the PBX when they are released.

Purchasing and Activating Additional Software Expansions

New:

- VoIP channels (2 – configurable as internal or external) for the COMpact 3000 analog/ISDN
- X.31 on the internal S_0 Port (X.25 on the D-channel) for the COMpact 3000 ISDN
- Fax transfer (via the **Auerswald Fax** printer driver)

Expansion:

- LAN-TAPI (number of subscribers from 4 to 8)
- VoIP channels (2 – configurable as internal or external) for the COMpact 3000 VoIP

Purchasing and Releasing Software Expansions in the Upgrade Center

Note: You can carry out the expansion release in the Upgrade Center or have your dealer do it for you.

Requirements:

– A user account in the Upgrade Center

Registration/Creation of a User Account for the Upgrade Center

Requirements:

– PC with an existing Internet connection

1. Call Auerswald's Upgrade Center at:
   - On the Internet (Internet address: www.auerswald.de/upgradecenter): Click **Next**.

- In the configuration manager (**SERVICE > Release > Release code**): Click **Open Upgrade Center**.

2. Click **User management**.
3. Click **Registration (create a user account)**.

   A form for entering personal data opens.
4. Enter the required data and click **Save data**.

   You will receive an e-mail with the login information.

Software Expansions via the Configuration Manager

Requirements:

– *Configuration manager, opened with sufficient authorization*
– *A user account in the Upgrade Center*
– *PC with an existing Internet connection*

1. Open the page **SERVICE > Release > Release code**.
2. Click **Open Upgrade Center**.

   The Upgrade Center opens in a separate window. The serial number of the PBX is automatically entered and set in the **Other: Device-S/N.:** entry field. An overview of the products available for your PBX are displayed.
3. Click **Log in**.
4. Enter the data for your user account in the **User name** and **Password** entry fields.
5. Click **Log in**.
6. Click the category in which you would like to go shopping, or click **Display** under **All items for this device:**.

   The items available are displayed.

   Note: Click the image in the **Details** column to view the current expansion level on the PBX (regarding these items).

   ---
7. Place the desired item in the shopping basket by clicking the **Order** column.
8. Once you have selected all of the items you would like, click **Shopping basket / check out**.

The selected items are displayed in the shopping basket.

9. Select the payment type.

10. When you are finished making changes, click:

    - **Proceed to the TOB**: Before the initial order and after every change in the General Terms and Conditions (TOB), the terms and conditions of business of Auerswald GmbH & Co. KG must be accepted.
    - **Proceed to the customer data**

11. Follow the additional instructions.

    You will receive the order confirmation for your order and the 20-digit release codes required for release after purchase.

12. Transmit the release codes into your PBX:

    - Payment types **Credit card**, **Direct debit** or **Invoice**: The order confirmation (with release codes) is displayed in the Upgrade Center at the end of the order process. Click **Apply all release codes in the PBX with IP XXX.XXX.XXX.XXX**.

      The releases are automatically applied in the PBX. The new release status is displayed under **SERVICE > Release >** Released software expansions.

      Note: If your e-mail address is registered in the Upgrade Center, you will receive the order confirmation again by e-mail. If you have not entered an e-mail address, print the order confirmation that is displayed.

    - Payment type **Cash on delivery**: The order confirmation (with release codes) is sent to you via UPS.

      Open the page **SERVICE > Release > Release code**. In the **Enter release code** entry field, enter one of your newly acquired release codes. Click **Release**. Repeat the steps for additional release codes.

      The new release status is displayed under **SERVICE > Release >** Released software expansions.

Software Expansions via the Internet

Requirements:

– *Configuration manager, opened with sufficient authorization*
– *A user account in the Upgrade Center*
– *PC with an existing Internet connection*

1. Open the page **SERVICE > Info > PBX data**.
2. Make a note of the 12-digit serial number of the PBX.
3. Open the Internet Auerswald Upgrade Center at (Internet address: www.auerswald.de/upgradecenter).
4. Enter the data for your user account in the **User name (customer number)** and **Password (PIN)** entry fields.
5. Click **Log in**.

   The Upgrade Center opens. The available categories are displayed.
6. In the **Other: Device-S/N.:** entry field under PBX type, enter the serial number of the PBX.
7. Click **Set**.
8. Click the category in which you would like to go shopping, or click **Show** under **All items for this**.

   The items available are displayed.

   Note: Click the image in the **Details** column to view the current expansion level on the PBX (regarding these items).

   ---
9. Place the desired item in the shopping basket by clicking the **Order** column.
10. Once you have selected all of the items you would like, click **Shopping basket** under **Shopping basket**.

    The selected items are displayed in the shopping basket.
11. Select the payment type.
    - Payment types **Credit card**, **Direct debit** or **Invoice**: The order confirmation (with release codes) is displayed in the Upgrade Center at the end of the order process.

      Note: If your e-mail address is registered in the Upgrade Center, you will receive the order confirmation again by e-mail. If you have not entered an e-mail address, print the order confirmation that is displayed.

    - Payment type **Cash on delivery**: The order confirmation (with release codes) is sent to you via UPS.

12. When you are finished making changes, click:
    - **Proceed to the TOB**: Before the initial order and after every change in the General Terms and Conditions (TOB), the terms and conditions of business of Auerswald GmbH & Co. KG must be accepted.
    - **Proceed to the customer data**
13. Follow the additional instructions.

    You will receive the order confirmation for your order and the 20-digit release codes required for release after purchase.
14. Keep the release codes handy.
15. Open the page **SERVICE > Release > Release code**.
16. In the **Enter unblocking code** entry field, enter one of your newly acquired release codes.
17. Click **Release**.

    The new release status is displayed under **SERVICE > Release > Released software expansions**.
18. Repeat steps 16 and 17 to enter additional release codes.

Service Data

If the PBX ever displays a malfunction, various reports can be recorded. These reports can then be forwarded to technical departments (Service, Development) to help find the cause of the malfunction.

Recording the D-Channel Log

To make control and administrative information about the connections on the PBX, e.g., visible, a D-channel log is started. The type of error and perhaps the cause can be determined by looking at the list of transmitted information.

The recording can be made as follows:

- Using the PC application called D-Channel Decoder

Requirements:

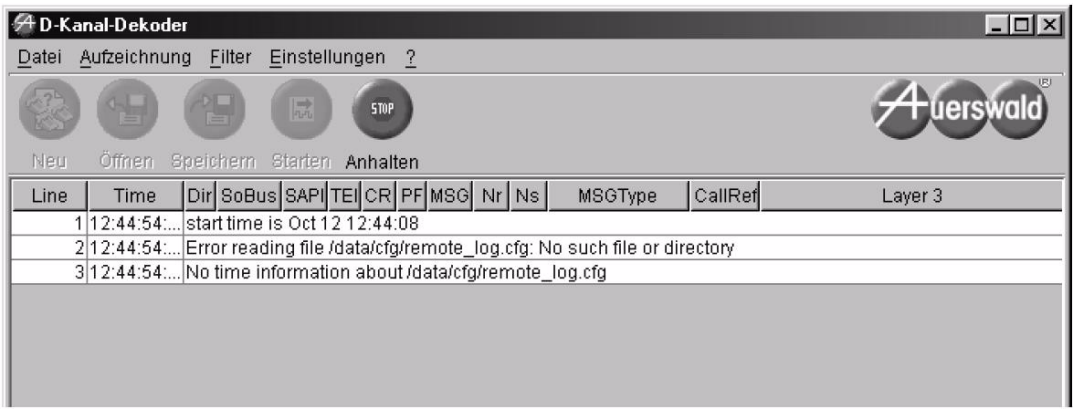
– *The PC application D-Channel Decoder installed from the Auerswald Mega Disk*

1. Start the PC application D-Channel Decoder.
2. Click **Start**.

   An interface selection dialog opens.
3. In the **Interface** list field, select the **IP** option.
4. In the **IP address** entry field, enter the IP address of the PBX.

   Note: Any possibly existing port must be omitted when the IP address is entered.
5. Click **OK**.

   The report log is displayed.


D-Kanal-Dekoder
Datei Aufzeichnung Filter Einstellungen ?
STOP
Neu Öffnen Speichern Starten Anhalten
Auerswald
Line Time Dir SoBus SAPI TEI CR PF MSG Nr Ns MSGType CallRef Layer 3
1 12:44:54:... start time is Oct 12 12:44:08
2 12:44:54:... Error reading file /data/cfg/remote_log.cfg: No such file or directory
3 12:44:54:... No time information about /data/cfg/remote_log.cfg

6. To stop recording, click **Pause**.

Further steps:

– *The technical departments (Service, Development) use the file to diagnose the malfunction.*

Log-in Tracking

Log-in tracking is logged in the configuration manager. It can be viewed on the page **SERVICE > Service data > Log-in tracking**.

Log-in tracking contains the following information:

User name: Shows the user name that was used during login.

Authorization level: Shows the authorization level.

Log-in: Shows the date and time that was saved in the PBX at the time of login.

IP address: Shows the IP address of the PC.

Logging Registered Users Out

Logged-in users can be logged out by the administrator or sub-administrator.

Logging out can be carried out as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *At least one logged-in user*

1. Open the page **SERVICE > Service data > Logged-in users**.
2. Click **Log-out** in the line of the corresponding user.

   The user is logged out.

Creating a PBX Image

If the PBX exhibits a malfunction which is not caused by incorrect operation or external influences, a PBX unit image can be used to diagnose the malfunction.

The creation can be carried out as follows:

- Via the configuration manager

Requirements:
– *Configuration manager, opened with sufficient authorization*

1. Open the page **SERVICE > Service data > PBX image**.
2. Click **Load image** with the right mouse button.
3. Click **Save target as...** (this text depends on the operating system used).

   A dialog for downloading the file opens.
4. Save the file.

Further steps:
– *The technical departments (Service, Development) use the file to diagnose the malfunction.*

Logging the Network Data Stream

To log the Ethernet data stream, a network protocol in PCAP format can be recorded. This protocol can then be evaluated (e.g.,with Wireshark/Ethereal), for instance, to determine the cause any malfunctions which may have occurred.

The recorded network data stream may contain the following components:

- Data streams of other computers in the network

- Connection data sets with destination, source, and time information of a telecommunication connection
- The spoken word of both ends of a telecommunication connection
- Configuration data of the PBX and connected telephones, as well as the corresponding PINs

---

Important:

Prior to recording, all subscribers of the telecommunication connection have to be informed that the contents are going to be recorded and as to who will process the data retrieved.

If you want to provide the recorded data to your authorized vendor or to Auerswald for the purpose of error analysis, you have to ensure that the applicable legal requirements are met.

The recording can be made as follows:

- Via the configuration manager

Requirements:

– *Configuration manager, opened with sufficient authorization*

– *Deactivated pop-up blocker in the browser or defined exception rule*

1. Open the page **SERVICE > Service data > Network data stream**.
2. Accept the legal notes by entering **ok** in the entry field.
3. Click **Start**.

   Recording the network protocol is started.
4. To stop the recording of the network protocol, click **Stop**.

   A dialog box for downloading the "ethernettrace.pcap" file is opened.
5. Save the file.

Further steps:

– *The technical departments (Service, Development) use the file to diagnose the malfunction.*

Short Operation Instructions

This section includes a list of functions and settings you can configure using an internal or, in some cases, an external telephone.

Telephoning

Call: Initiate

Call an internal telephone:	1
Call an exchange line:	2
Initiate a call without number presentation:	* 31 # 2
Initiate an external call with private exchange line access:	## 92 [user PIN] * 2
Initiate an external call with private exchange line access without a PIN:	## 91 2
Initiate an external call with a specific number presentation:	## 96 3 * 2
Initiate an external call via a specific VoIP account:	4 2

1 = ** + internal telephone number (If you do not use a direct exchange line access, omit the **.)

2 = external telephone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)
or ** + short code number (If you do not use a direct exchange line access, omit the **.)

3 = your own external telephone number to be presented

4 = ** + internal number of the VoIP account (If you do not use a direct exchange line access, omit the **.)

[user PIN] = user PIN

Call Parking

Park a call internally:	R 2 [number 0-9]
Take the call again on another telephone:	2 [number 0-9]

R = Flash key or Query key

2 = ** + internal base telephone number for the parking zone (If you do not use a direct exchange line access, omit the **.)

[number 0-9] = number 0-9 of the parking position

Call Through

Call exchange line via PBX:	1 2
Call exchange line via PBX (and its short code numbers):	1 * * 3
Call internal subscriber or internal group of the PBX:	1 * * 4

1 = external Call Through telephone number

2 = external telephone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)

3 = ** + short code number (If you do not use a direct exchange line access, omit the **.)

4 = ** + internal telephone number (If you do not use a direct exchange line access, omit the **.)

Call Waiting Call: Accept/Reject

Accept call waiting call and put current call on hold (initiate query call):	R 2
Accept call waiting call and disconnect current call:	R 1
Reject call waiting call to continue the current call undisturbed:	R 0

R = Flash key or Query key

Callback/Exchange Line Reservation: Initiate

Initiate callback on busy (internal/ external):	R * 37 #

Callback/Exchange Line Reservation: Initiate

Delete callback on busy ahead of time:	# 37 #
Initiate reservation of exchange line on busy:	R * 37 #

R = Flash key or Query key

Conference Calls

Initiate a conference call during a query call:	R 3
End a conference call:	(**hang up**)
Connect both conference call partners:	R 4
Back to the communication partner previously been active (query):	R 2
Back to the communication partner previously been on hold (query):	R 1

R = Flash key or Query key

InterCom Announcement/Handsfree: Initiate

Call system telephone for InterCom announcement:	## 011
Call system telephone for InterCom handsfree:	## 012

= ** + internal telephone number of the system telephone (If you do not use a direct exchange line access, omit the **.)

Pickup and Call Pickup

Accept call for another telephone (pickup):	## 06

Pickup and Call Pickup

Take a call from the answering machine:	## 06

= ** + internal telephone number of the telephone/answering machine (If you do not use a direct exchange line access, omit the **.)

Query and Splitting

Initiate an internal query call:	R
Initiate an external query call:	R
Terminate query call on no reply:	R 1
Speak to each communication partner going back and forth between the two during a query call (**splitting**):	R 2
Terminate call on hold and continue the call previously been active during a query call:	R 0
Terminate active call during a query call and continue the call with the communication partner previously been on hold:	R 1
Connect both communication partners during a query call by hanging up the receiver:	(**hang up**)

R = Flash key or Query key

= ** + internal telephone number of the individual telephone (If you do not use a direct exchange line access, omit the **.)
or ** + internal telephone number of the line group (If you do not use a direct exchange line access, omit the **.)

= external telephone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)
or ** + short code number (If you do not use a direct exchange line access, omit the **.)

Query and Third Call

Initiate a third call with an internal telephone:	R 5

Query and Third Call

Initiate a third call with an external telephone:	R 5 ☎2
Terminate third call and back to the communication partner previously been active (query):	R 1
Terminate third call and back to the communication partner previously been on hold (query):	R 2
Connect the second and third communication partner – after this, call with the first communication partner:	R 4
Disconnect the first and second call – after this, call with the third communication partner:	R 0

R = Flash key or Query key

☎1 = ** + internal telephone number (If you do not use a direct exchange line access, omit the **.)

☎2 = external telephone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.
or ** + short code number (If you do not use a direct exchange line access, omit the **.)

Transfer

Connect both communication partners during a query call by hanging up the receiver:	(**hang up**)
Connect both communication partners during a query call:	R 4
Transfer an external call to an internal telephone without announcement:	R ☎ (**hang up**)
Place external communication partner in waiting loop after trying to transfer:	R ## 07

R = Flash key or Query key

☎ = ** + internal telephone number (If you do not use a direct exchange line access, omit the **.)

Settings

Baby Call

Configure baby call:	* 53 * #
Enable baby call:	* 53 #
Disable baby call:	# 53 #
Check activation:	* # 53 #

= ** + internal telephone number of the individual telephone (If you do not use a direct exchange line access, omit the **.)
or external telephone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)
or ** + short code number (If you do not use a direct exchange line access, omit the **.)

Call Data

Delete individual call data sets:	## 8 * 51 #

= user PIN

Call Distribution

Create call distribution on the analog connection:	## 8 * 901 # (**do not hang up -> pick up the receivers of the desired telephones -> hang up the receivers of all telephones**)
Create call distribution on the ISDN point-to-multipoint connection:	## 8 * 901 * # (**do not hang up -> pick up the receivers of the desired telephones -> hang up the receivers of all telephones**)
Delete call distribution on the ISDN point-to-multipoint connection:	## 8 * 900 #

= sub-admin or admin PIN

= MSN without local prefix

Call Forwarding (MSN/DDI)

Configure call forwarding for the MSN/DDI currently presented by the subscriber (prefix):	## 96 # ...
Configure call forwarding for a special MSN/DDI (prefix):	## 96 # ...
Configure call forwarding unconditional:	... * 21 * #
Enable call forwarding unconditional:	... * 21 #
Disable call forwarding unconditional:	... # 21 #
Configure call forwarding on busy:	... * 67 * #
Enable call forwarding on busy:	... * 67 #
Disable call forwarding on busy:	... # 67 #
Configure call forwarding on no reply:	... * 61 * #
Enable call forwarding on no reply:	... * 61 #
Disable call forwarding on no reply:	... # 61 #

= external telephone number to be forwarded/forwarded

= external telephone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)
or ** + short code number (If you do not use a direct exchange line access, omit the **.)

Charges

Set the call allowance account to 0-99998 currency units (e.g., cent):	## 8 * 74 * #

Charges

Set the call allowance account to unlimited:	## 8 * 74 * 99999 #

= sub-admin or admin PIN

= ** + internal telephone number of the subscriber (If you do not use a direct exchange line access, omit the **.)

= 0-99998 currency units (e.g., cent)

Configuration Switchover

Switch configuration:	## 8 * 81 #

= identification number of the configuration

Configuration Switchover (on an External Telephone)

Switch configuration:	## 8 * 81 #

= external PIN

= identification number of the configuration

DHCP Client

Enable DHCP client:	## 8 * 930 * 1 #
Disable DHCP client:	## 8 * 930 * 0 #
Query DHCP client status:	## 8 * 940 # (**indicated in the display**)

= sub-admin or admin PIN

Do-not-disturb

Enable do-not-disturb:	## 8 * 211 #
Disable do-not-disturb:	## 8 * 210 #
Enable call deblocker (incoming):	## 8 * 221 #
Disable call deblocker (incoming):	## 8 * 220 #
Enable call restrictor (incoming):	## 8 * 231 #
Disable call restrictor (incoming):	## 8 * 230 #

= user PIN

Flash Time

Learn flash timing:	## 8 * 98 * R R #

R = Flash key

Gateway

Configure gateway:	## 8 * 933 * #
Query gateway:	## 8 * 943 # (**indicated in the display**)

= sub-admin or admin PIN

= IP address of the gateway (12 digits)

IP Address of the PBX

Configure IP address:	## 8 * 931 * #
Query IP address:	## 8 * 941 # (**indicated in the display**)

= sub-admin or admin PIN

= IP address of the PBX (12 digits)

Multi-path Call Forwarding

Enable multi-path call forwarding with an existing destination number:	## 97 [1] # * 481 #
Disable multi-path call forwarding:	## 97 [1] # # 481 #
Enable multi-path call forwarding:	## 97 [1] # * 481 * [2] #
Check activation:	## 97 [1] # * # 481 #

[1] = ** + internal telephone number of the call distribution group (If you do not use a direct exchange line access, omit the **.)

[2] = ** + internal telephone number of the individual telephone (If you do not use a direct exchange line access, omit the **.)
or ** + internal telephone number of the line group (If you do not use a direct exchange line access, omit the **.)
or external telephone number (If you do not use a direct exchange line access, dial the exchange line access number before dialling the telephone number.)
or ** + short code number (If you do not use a direct exchange line access, omit the **.)

Music on Hold

Play internal music on hold:	## 8 [admin] * 5632 * * (**playing**) #
Delete internal music on hold:	## 8 [admin] * 5532 #
Record announcement for music on hold:	## 8 [admin] * 5631 * * (**recording**) #
Delete announcement for music on hold:	## 8 [admin] * 5531 #
Disable music on hold and announcement:	## 8 [admin] * 5730 #
Enable just announcement without music on hold and listen to it:	## 8 [admin] * 5731 #

Music on Hold

Enable just internal music on hold without announcement and listen to it:	## 8 [admin] * 5732 #
Enable internal music on hold mixed with announcement and listen to it:	## 8 [admin] * 5733 #

[admin] = sub-admin or admin PIN

PBX Time

Configure the time (sub-admin PIN, time, 6-digit hhmmss):	## 8 [admin] * 300 [1] #
Configure the date (sub-admin PIN, date, 6-digit ddmmyy):	## 8 [admin] * 301 [2] #

[admin] = sub-admin or admin PIN

[1] = time, 6-digit (hhmmss)

[2] = date, 6-digit (ddmmyy)

PIN: Changing

Change the PIN:	* 99 * [admin1] * [admin2] * [admin2] #

[admin1] = old PIN

[admin2] = new PIN

Programming: Release via S_0

Release programming:	## 8 [admin] * 91 #

[admin] = user PIN or sub-admin PIN

Room Monitoring

Enable room monitoring:	## 8 * 61 # (**do not hang up**)

Room Monitoring

Perform room monitoring from internal telephone:	

= ** + internal telephone number of the configured telephone (If you do not use a direct exchange line access, omit the **.)

Room Monitoring (on an External Telephone)

Perform room monitoring from external telephone:	## 8 * 60 #

= external PIN

Subnet Mask

Configure subnet mask:	## 8 * 932 * #
Query subnet mask:	## 8 * 942 # (**indicated in the display**)

= sub-admin or admin PIN

= IP address of the subnet mask (12 digits)

Wake-up

Enable one-time wake-up (soonest appointment possible):	## 8 * 31 #
Enable recurring wake-up (soonest appointment possible and the ensuing appointments):	## 8 * 32 #
Delete all your own wake-up times:	## 8 * 33 #

= user PIN

= time, 4-digit (hhmm)

= 1-digit code for the weekday
1-7: Monday (1) - Sunday (7)
8: Saturday and Sunday
9: Monday to Friday
0: every day

Wake-up Announcements

Record announcement:	## 8 * 56 * * (**recording**) #
Listen to announcement:	## 8 * 57 #
Delete announcement:	## 8 * 55 #

= sub-admin or admin PIN

= 2-digit code for the announcement
21-23: announcements 1-3 for wake-up function

Voice Mailbox

Enable voice mailbox:	## 97 # * 21 #
Disable voice mailbox:	## 97 ## 21 #

= ** + internal telephone number of the call distribution group (If you do not use a direct exchange line access, omit the **.)

Glossary

The glossary contains an alphabetical list of the functions and terminology used accompanied by short explanations.

There is also an index of abbreviations.

Topics

– Terminology and Functions (page 557)
– Abbreviations (page 583)

Terminology and Functions

A B C D E F G H I J L M N O P Q R S T U V W X

A

APIPA

APIPA (Automatic Private IP Addressing) allows network interfaces to be configured automatically. A device that supports APIPA allocates itself a random IP address from the range 169.254.1.0 to 169.254.254.255 or has a permanent IP address from the APIPA address range.

B

B-Channel

This is the payload channel for an ISDN connection and has a data transmission rate of 64 kbps (Euro-ISDN). It is comparable to a telephone line on a regular analog telecommunication network.

Baby Call

The baby call function provides a service in which approx. 2 seconds after picking up the receiver, a telephone number is automatically dialled to call an internal or external subscriber. This means, no key needs to be pressed. However, if a telephone is dialled manually within the first 2 seconds, it has priority. It must be noted that on some telephones, the numbers dialled are not sent immediately when the keys are pressed (often there is approx. a half second delay).

Boss/Secretary Function

The boss/secretary function protects the boss telephone from direct calls by rerouting them to the secretary. The most important difference from call forwarding is that the boss telephone can still be called from the secretary telephone and the secretary can still transfer important calls to the boss telephone.

Busy on Busy

If a call is already in progress over one of your own external telephone numbers, the "Busy on Busy" function prevents another external call to this telephone number from being signaled on the internal subscribers selected in call distribution (another caller receives the busy tone, even if call waiting is enabled on the subscriber speaking).

This is meaningful when there is only one person present in the office, and this person would like to make calls undisturbed. Any other callers are given the impression through Busy on Busy that no one is present.

C

Call Data

The PBX has a call data memory in which up to 2,000 call data sets can be saved and protected from power outages.

Call Deblocker (Incoming) – VIP Numbers

If you would still like to allow specific people to call you despite enabling the do-not-disturb function, the external telephone numbers of these people can be assigned a call deblocker for incoming calls in the PBX. The call deblocker which applies to all subscribers can be enabled on your own telephone as needed. If the call deblocker is enabled, the do-not-disturb function does not apply to callers who use one of the assigned telephone numbers.

Call Deblocker (Outgoing) – Release Codes

Call deblockers can be added to the exchange line authorizations to expand dialling options with additions of a certain supply of numbers (telephone numbers for specific connections or specific prefixes). Since call deblockers have a higher priority than call restrictors, they can be used to release restricted numbers or parts of them.

Call Forwarding

Call forwarding allows calls to be forwarded, e.g., to a mobile phone.

Call Parking

Call parking lets a caller in a waiting position be transferred so that the desired communication partner can accept the call on another internal telephone.

Call Restrictor (Incoming) – Robinson Numbers

If there are certain persons who you absolutely do not want to call you or if you do not want callers to call a private branch exchange, their external phone numbers and/or all anonymous callers can be assigned to a call restrictor for incoming calls. The call restrictor which applies to all subscribers can be enabled on your own telephone as needed. If the call restrictor is enabled, a caller, who transmitted one of the assigned telephone numbers, is rejected.

Call Restrictor (outgoing) – Restricted Numbers

In order to restrict exchange line authorization, the telephone numbers that should not to be dialled can be put in call restrictors. There are several ways to do this. In general, telephone numbers are restricted that begin with a certain digit sequence and that should not be accessible to every subscriber due to its higher charge tariffs, e.g., 0900 telephone numbers. Normally, the first 4 to 5 digits indicate the telephone service that cause such high charges.

If an attempt is made to dial a restricted telephone number, only a busy tone is heard. If the restricted numbers are not activated (meaning "not restricted"), restriction via the configured exchange line authorization is still possible.

Call Take-over

A call made by another internal subscriber is disconnected and then connected to a separate telephone. This function is useful, for example, when using answering machines.

Call Through

This function also enables, e.g., field representatives to use the least cost routing function and VoIP/GSM routing on the PBX. To prevent high costs when using mobile telephones, an international call be made by first calling the PBX and then connecting to the desired connection from the PBX. The Call Through function also enables the direct redial of any telephone number.

Call Waiting

If you are already in a call, the call waiting function notifies you using the call waiting tone when another communication partner is calling.

Callback on Busy

After initiating a callback on busy (CCBS), a subscriber is automatically called back by the PBX or by the central office when a busy subscriber becomes available again.

Callback on No Reply

After initiating a callback on no reply (CCNR), a subscriber is automatically called back by the PBX or by the central office when a subscriber is reachable again.

Central Office

This is a node point on the public telecommunication network.

CNG

In order to keep the data rate for VoIP on the network as low as possible, noises under a specific volume level are suppressed and not transmitted.

CNG (Comfort Noise Generation) creates an artificially-generated noise in the VoIP end device that fills the speech pauses during a telephone call, thereby conveying the impression of an existing connection to the local subscribers. Without CNG, there is an impression that the call has been interrupted because nothing can be heard.

CNG supports codecs G.711 and G.722.

Codec

A codec is a method that encodes (digitizes) analogue voice data for transmission and again decodes again, meaning converts into back into voice. There are various codecs that feature different voice data compression rates thereby require different band widths for data transmission. The equality of VoIP calls is dependent on the codec used.

Conference Calls

During a conference call, you are talking with two subscribers simultaneously.

Configuration Manager

The configuration manager lets you easily configure the PBX on your computer. It is reachable over the integrated Web server on the PBX. The required PC is connected either directly to a Ethernet port on the PBX or it must be on the same network.

Configuration Switchover

If multiple configurations have been saved, for example, for day, night, etc., switching over from one configuration to another can be carried out manually and/or in a time controlled manner.

Cross-Site Scripting (XSS)

In the case of Cross-Site Scripting (XSS), a security hole in web applications can be used to access the data of another user.

D

D-Channel

Control information, such as telephone numbers, units, services, etc. is transmitted on the D-channel, the signaling channel for the ISDN.

DDI

The DDI (Direct Dialling In) is the extension number for dialling directly to a specific subscriber on a telephone system. Example: In the number 0 53 06 / 92 00 - 700, 700 is the extension (DDI) for the Auerswald info-line.

DHCP

DHCP (Dynamic Host Configuration Protocol) is a client/server protocol for dynamically allocating IP addresses and network parameters. The IP addresses are requested by the DHCP clients (PCs in the network) on the DHCP server (for example, a router or the Internet service provider). The DHCP server takes these IP addresses from a set address pool and sends them to the client. In addition, the client receives additional information (for example, the addresses for the standard gateway and DNS server).

The IP address is temporarily allocated for a certain amount of time. If the address is no longer required by the client, the server has access to it again and can allocate it to another client.

DiffServ

The Differentiated Services Flag (DiffServ) is evaluated by active network components such as routers or switches in networks in order to forward packets according to their priority. This is necessary, for example, to give voice packets (VoIP) priority and to achieve better voice quality.

Direct Exchange Line Access

If the telephone has been configured as a direct exchange access point on the PBX, you will hear an external dial tone directly after picking up the receiver. You can directly dial the telephone number without the leading 0.

DNS

DNS (Domain Name Service) is needed to translate Internet addresses from a form readable by the user (for example, www.auerswald.de) and to the corresponding IP addresses that the PC can use to request the page on the Internet. This service is provided by DNS servers at the various Internet service providers or by upper domain servers.

Do-not-disturb

The do-not-disturb function offers the option of blocking internal and external calls as well as blocking group calls on a specific telephone. A caller hears only a busy signal. An internal subscriber can reach a telephone with call protection in an emergency using a priority call.

The do-not-disturb function has no influence on outbound calls, callbacks, wake-up calls or InterCom calls.

DynDNS

DynDNS services make it possible to access an Internet connection despite a dynamic IP address. To do this, the service provider assigns the changing IP address of an Internet connection to a permanent domain name (e.g., YourName.DynDNS.org).

E

E-mail

An e-mail (electronic mail) is a message that is transmitted over a computer network.

Echo Cancellation

Local echos and Hall effects are compensated using echo cancellation. For example, an echo is generated on the receiver of a telephone; the voice of the caller emanates from the loud speakers and reaches the microphone where it is then transmitted back.

Emergency Call Priority Switch

The emergency call priority switch enables an emergency call even if all of the lines or B-channels are in use. In this case, the PBX interrupts an existing external call.

End Device

A general description for a device that can be operated on a communication network or on a PBX, e.g., telephone, fax machine, answering machine, ISDN PC controller, etc.

Energy Savings Function (Economy Mode)

Economy mode provides the option of either switching off all of the LEDs on the PBX or switching off all of the LEDs except for the "Power" LED. This is not lit constantly, but flashes slowly.

Depending on the configuration, economy mode is enabled when the switches to a specific configuration.

Ethernet

A network system with a speed of 10/100/1000 Mbit/s that was developed by the companies INTEL, DEC and Xerox.

Exchange Line Authorization

The exchange line authorization detemines which type of telephone numbers can be dialled by a subscriber (e.g., telephone numbers in the local telephone network).

Exchange Line Reservation

If a caller would like make an external call and all of the lines are in use, a line can be reserved. As soon as a B-channel or an exchange line is available again, the caller's telephone rings and a number can be dialled.

Exchange Line Transfer

A suitably authorised system telephone, for example, the telephone exchange, can transfer the exchange line access required for an outgoing call to another internal telephone for a short period of time. This is meaningful, for example, when this telephone is located in a publicly accessible room and is only occasionally used for external calls by an employee.

External

In the field of telecommunications, this is a type of connection or subscriber that is reachable over the public telecommunications network or enable a connection to this network.

External Private Branch Exchange

An external private branch exchange is an internal subscriber (e.g., home office, outlying parts of the building, branch offices) that is connected to a central telephone system via a public network (e.g., the Internet). In this case, the distance between the telephone system and the outlying private branch exchange is not relevant.

F

Fallback

For Soft LCR and VoIP/GSM routing, the PBX can automatically be switched to an alternate exchange line or an alternate network provider (fallback) if the provider selected is busy.

Fax Box

The fax box receives incoming faxes and saves them as PDF files on the USB memory stick or on the SD card on the PBX. The maximum length of a fax is 50 pages.

The fax reception speed is a max. of 9.6 kbps (V.29).

Fax Transfer

The fax function of the PBX supports fax transfer in combination with a corresponding PC application. The required **Auerswald Fax** printer driver has to be installed on the PC used and the **fax transfer** function has to be purchased and activated in the Upgrade Center.

The outgoing fax is saved on the storage medium for the used fax box and the fax transfer is controlled with the corresponding fax ID in the background by the PBX. If the destination of the fax cannot be reached (busy or no reply), two further dial-up attempts will automatically be made by the PBX.

Firmware

Firmware is the operating software on the telephone or PBX that is stored in the device itself. The device cannot function without firmware.

Firmware Update

When firmware is updated, errors are corrected or new features are installed. To do this, the device establishes a connection to a server in order to download the most current firmware (the device settings remain intact). Except for the charges for the required server connection, the update is free of charge.

G

Gateway

A gateway is a PC or router that is used as an intermediary between two (different) networks. The Internet service provider is the gateway for direct Internet dial-up connections. If you use a router, this is the gateway in a local network.

H

Hands-free Calling

During hands-free calling, the loudspeaker and microphone on the device are switched on. This option allows you to talk on the telephone even if you have no hands free. In addition, other people in the room can participate in the call.

Headset

A headset enables you to participate in a call without having to hold the receiver in your hand. This is a very useful feature, especially in certain professions (for example, in a call center).

HTTP Proxy

An HTTP proxy is a proxy for the HTTP protocol, over which Internet sites are called or files downloaded.

I

InterCom Announcement/Handsfree

The InterCom function enables an announcement to a system telephone (COMfortel 1100/ 1500/2500/2500 AB/VoIP 2500 AB) from any internal telephone without someone having to actively receive a call (for example, in a doctor's office).

Furthermore, the caller's system telephone can be programmed to switch on the microphone in addition to the loudspeaker (handsfree) so that a person nearby can speak with the caller using this intercom system.

Internal

In the field of telecommunications, a connection or subscriber that is connected to a PBX and is reachable over a PBX without using the public telecommunication network is called an internal subscriber.

IP Address

In order to ensure that the data packets reach the correct recipients, all of the devices in a TCP/IP network require a unique address, known as the IP address. IP addresses comprise four numbers between 0 and 255 that are separated by a point, for example, 192.168.0.14. The network addresses are divided up into different classes (Class A to C) depending on how many computers can be located in a network.

Certain ranges are reserved for the operation of local networks:

– Class A: 10.x.x.x (for networks with up to 16.5 million PCs)

– Class B: 172.16.x.x to 172.31.x.x (for networks with up to 65534 PCs)

– Class C: 192.168.0.x to 192.168.255.x (for networks with up to 254 PCs)

These addresses have no validity on the Internet; this means that data packets with this kind of sender or recipient address cannot be transported on the Internet. However, they can be used in local networks without restriction. The advantage of this is that if data from a local network configured in this way comes in contact with the Internet, none of the data on the computers in the local network can leak out or be accessed externally.

J

Jitter Buffer

The jitter buffer buffers RTP packages, to compensate irregular transfer rates of the Internet.

A high jitter buffer reduces short interruptions during the call. In return the delay of the RTP packages increases.

L

LAN

The LAN (Local Area Network) connects computers over company or home networks.

LAN-TAPI

The LAN-TAPI from Auerswald provides the TAPI 2.1 interface over the Ethernet port on the PBX.

A Microsoft server then distributes the functionality throughout the network (third party network connection) onto the separate Microsoft computers so that telephony software, e.g., Estos ProCall or other TAPI applications can use the TAPI functions. The PBX is addressed by the server over the Ethernet interface. When a user wants to dial from the client PC, the command is forwarded to the server. The server signals this to the PBX which then establishes the connection.

LCR

LCR (Least Cost Routing) is a function of the PBX that enables the subscriber to automatically make calls using the most cost-effective telephone service provider. To set this up, the function must be configured and the current tariff structure of the telephone service providers to be used saved in the tariff tables on the PBX.

LED

An LED is a light emitting diode. This is an electronic device that is similar to a lamp and is used for displays (also multi-coloured).

Line Group

A line group is made up of multiple internal end devices at the same time. A telephone number for line groups is used to access the end devices that belong to the line group via the PBX. If this number is called, all of the telephones ring. The call is sent to the telephone whose receiver is picked up first.

Loudspeaker Listening

During loudspeaker listening, the receiver loudspeaker as well as the loudspeaker in the device are switched on. This allows other people in the room to listen in on the call. The call is continued using the receiver microphone (no hands-free calling).

M

MAC Address

A MAC address (Media Access Control) is a special unique hardware address specified for each individual single network card used in the whole world. This means that the network card unique and can be controlled without any problems and detected by the network The IP addresses on the TCP/IP network are always mapped to the respective MAC address.

MSN

An ISDN point-to-multipoint connection is reachable under multiple telephone numbers, the MSN (Multiple Subscriber Number) or multiple subscriber numbers. The MSN is the part of the telephone number without a local prefix.

Multi-path Call Forwarding

Multi-path call forwarding is used to signal external calls, in addition to call distribution for an internal or an external telephone number, e.g., on a mobile phone. Multi-path call forwarding is also executed if the "main telephone number" is, for example, busy. It is not executed when call forwarding for external numbers is enabled.

Music on Hold and Announcement

When transferring a call or in the case of a query call, a communication partner waiting in the background hears music on hold from the PBX, perhaps with an announcement played over the music.

N

NAT

NAT (Network Address Translation) permits the mapping of a specific IP address used within a network to another IP address used by another network. This function is e. g. performed by a router which connects a local area network to the Internet.

Network

A network is a merger of more than one computer and other communication devices. This enables multiple users to access common resources such as files, printers, etc.

NTP

As the time on a computer or on other devices in the network is only rarely precisely adjustable, the NTP (Network Time Protocol) is used. This is a protocol that is used to synchronise the time on a computer or on other devices in the network with other computers or with an external clock via the Internet. An NTP server is selected to perform the time synchronisation. The time provided by the NTP server is synchronised as exactly as possible to Coordinated Universal Time (UTC).

If a local NTP server is available in a local network, it can be selected, or a public NTP server from a public list on the Internet can be used.

Number Presentation

Number presentation enables the selection of the telephone number that is transmitted to the person being called during an outgoing call (outgoing). At the same time, the telephone number is selected that is transmitted back to the caller and displayed as the telephone number actually reached during the call (incoming).

If no telephone number should be transmitted, number presentation can also be suppressed.

O

Online Name Search

The online name search lets you accept names to put with existing telephone numbers via a service provider on the Internet.

Outbound Proxy

The outbound proxy is an intermediate server that processes all VoIP requests and connections going to the provider (except registration).

P

Pickup

Using Pickup, you can take a call on your own phone that was originally sent to another internal telephone.

If the call has already been taken, the call can be taken using same procedure if the call take-over has been allowed by the subscriber being called. This function is useful, for example, in the case of answering machines.

PIN

A PIN (Personal Identification Number) is a multi-digit secret code that has to be entered to get access to services or authorisations.

PoE

PoE (Power over Ethernet) is a method by which a small devices in a network, for example, VoIP telephones, receive power over an Ethernet cable. This benefit of this is that there are fewer power cables to deal with.

PoE is described in the IEEE 802.3af Standard.

Point-to-Multipoint Connection

This is an ISDN connection with 3 to 10 independent telephone numbers (MSN). They can be assigned to one or more devices, including PBXs.

Point-to-Point Connection

This is an ISDN connection with a direct extension options. A provider allocates a PBX base number with additional extensions (DDI), e.g., 9200–0. PBXs are usually operated on a point-to-point connection.

Port

A single PC can simultaneously establish multiple connections and provide multiple services for other PCs. Ports are used to differentiate these connections from parallel connections. Due to a common agreement, PCs usually provide their services on ports 1 to 1023. Outgoing connections are usually established starting at Port 1024. Most services that use the standard port numbers (for example, web browsers use port 80).

POTS

POTS (Plain Old Telephone Service) is the international name for the analog exchange line.

Priority Call

When the do-not-disturb function is enabled, a subscriber is no longer reachable by normal callers. A priority call creates an exception and allows the incoming internal call to circumvent the do-not-disturb function.

Private (Personalized) Exchange Line Access

Private (personalized) exchange line access enables separate billing for business and personal calls for individual employees. Using private exchange line access, calls initiated are given a special identification while the call data is being recorded. This allows the charges to be billed to the employee.

Proxy

The proxy is a network component to which specific requests are sent instead of sending them directly to the destination. The proxy either forwards the request to the destination, rejects it, or replies directly if the data is already contained in its own cache.

Q

Query Calls

During a query call, you are talking with one subscriber while your previous communication partner is on hold on the PBX in the background listening to hold music.

A query call is initiated either by calling a query call subscriber, using pickup during a call, or by accepting a call signalled by call waiting.

R

Room Monitoring

The room monitoring function can be used for monitoring a room acoustically, for instance, for monitoring a small child while she sleeps. The internal telephone in this room must be suitably configured for this purpose.

The configured telephone can then be called by another internal telephone or by a password-protected external telephone. The connection is established immediately and it is possible to listen into the room.

Router

Routers connect two separate networks. This means, for example, that you can connect the local network to another LAN or a WAN. When a PC wants to send a data packet, this packet must travel over a router. The router uses the IP address to detect the network it must send the data to. In addition to connecting to networks, routers can also execute certain control

functions, such as maintaining a simple firewall. In a home network, routers are usually used to connect the local network to the Internet and to enable simultaneous Internet access for multiple users.

RSS Feed

RSS (Really Simple Syndication) is an XML-based file format. A subscribed RSS feed automatically delivers new messages which can then be read in special newsreaders or in current browsers (e.g., Internet Explorer 8, Firefox 3, Safari 5).

S

S_0 Port

An S_0 port has two payload channels and a data channel. Two simultaneous connections are possible on an S_0 port.

Server

A server is a computer or a software. Depending on the type of server it fulfils different tasks as part of the network. It provides, for example, other users (clients) in this network with certain information, data and services.

Short-code Authorization

If exchange line authorization is restricted and you want to increase your dialling options by adding specific telephone numbers, short-code dialling number authority can be added to the exchange line authorizations.

This allows special telephone numbers to be made available for dialling. When short-code dialling number authority is used, all short-code numbers can be dialled, independent of the exchange line authorization.

Short-code Numbers

In order to not always have to retype frequently-dialled telephone numbers on telephones that do not support a telephone book, these numbers can be saved under 2 to 4-digit short-code numbers. When short-code numbers are entered, the PBX automatically dials the exchange line access number on the PBX and the external telephone number saved under the short-code number.

SIP

SIP (Session Initiation Protocol) is a network protocol which provides establishing a communication session between two ore more subscribers. Via SIP only communication conditions are arranged. For actual data transmission other protocols are responsible, as RTP, for example.

SIP Port

The SIP port is entered as the port of the local system which has to be used as the output port for the SIP transfer.

SIP-DDI (SIP Trunking)

Some VoIP providers also support a VoIP point-to-point connection with a direct extension option. The provider allocates a PBX base number with additional extensions (DDI), e.g., 9200–0.

Soft Call

With the soft call function, a user can use the Web interface of the PBX to dial an external telephone number from the telephone book, the call data list, an RSS feed or by entering his own telephone number. To do this, the user must log into the Web interface with his user PIN.

Splitting

Splitting is the switching between two calls. As opposed to a conference call, you can only speak to each communication partner by going back and forth between the two. When you speak with one communication partner, the other call is kept on "hold".

STUN

Using STUN (Simple Transversal of UDP over NATs), the public IP address of a DSL connection can be determined. To do this, a STUN request is sent to a STUN server, which then shares its own IP address allocated by the VoIP provider with the DSL connection.

Subnet mask

Configuring subnetworks makes it possible to connect many totally different networks located in totally different areas because each subnetwork receives its own address and can therefore be addressed by the router. A subnetwork is created when the IP address is linked with a subnet mask:

If a bit in the subnet mask is set, the corresponding bit in the IP address is considered a part of the network address. If a bit is not set in the subnet mask, the corresponding bit in the IP address is used as a part of the PC address.

The value of the subnet mask, as with IP addresses, is often given in decimal form with separating points (for example, 255.255.255.0).

T

T-Net Functions

Functions available on the analog T-Net. There are analog comfort telephones with pre-defined function keys or menus for T-Net functions such as callback on busy, call forwarding, splitting or conference calling.

TAPI

TAPI (Telephone Application Programming Interface) is the name of a standardized software interface for computer-assisted telephony (CTI). TAPI ensures that software and hardware from various manufacturers are compatible with each other.

Targeted Exchange Line Access

Using targeted exchange line access, you can define which of your own external phone number is transmitted for an external call.

Targeted VoIP Access Point

An external call can be initiated via a specific VoIP account using a targeted VoIP access point.

The Internet service provider's network can only be accessed via a targeted VoIP access point, e.g., when querying the mailbox.)

TCP

TCP (Transmission Control Protocol) is a transport protocol that segments data into packets up to a specified size and reliably sends these individual data packets in the correct sequence to the recipient address. In this process, every data packet sent must be resent until it has been confirmed as arrived. In order to make sure this happens, a large amount of information is sent along with the actual payload data. Most Internet services are implemented with TCP, e.g., HTTP (WWW), SMTP/POPS (e-mail), etc.

Telephone Book

The telephone book is used for storing useful or frequently dialled telephone numbers along with the associated names. Existing entries are offered in the telephone book on a connected system telephone, automatically or after manual transmission.

If a telephone number that is entered in the telephone book is transmitted during a call, the assigned name is displayed instead of the telephone number is displayed on system telephones or on alpha-numeric CLIP-enabled end devices.

Telephone Number Display (CLIP)

The telephone number display (CLIP) enables the telephone number of the caller to be shown on the display of a system telephone, an ISDN telephone or on a CLIP-capable analog telephone. The prerequisite is that the caller transmits a telephone number.

A few CLIP-capable analog telephones support the recording of the date and time in conjunction with the caller list. On some, it is also possible to display the name instead of the telephone number.

Terminating Resistor

An ISDN S_0 bus with multiple wall sockets must be installed at each end, including two terminating resistors for preventing interference. These resistors are installed in the last ISDN wall socket(s) by an electrician.

Time and Call Allowance Account

Each telephone can be credited a certain amount of time using a time account. When the time credit is used up, it becomes no longer possible to make external calls on the corresponding telephone until the credit is reset.

A call allowance account is a restricted amount of currency units that is configured for each telephone. When these units are used up, it becomes no longer possible to make external calls on the corresponding telephone until the credit is reset.

Transfer

A communication partner can be transferred or connected to an internal or external subscriber.

Transferring Without Announcement

This describes a type of transfer where external calls are transferred to internal subscribers. The caller is put through to the desired subscriber without an announcement.

U

UDP

UDP (User Datagram Protocol) is used to send data packet over non-secure communication lines without a connection. This means that successful transmission is dependent on the application and is therefore not always guaranteed. UDP itself does not verify whether data has been transmitted successfully. When a UDP packet is sent, the sender cannot assume that the packet will indeed arrive at the recipient. This particular protocol needs only a small amount of additional information, and results in a better data throughput rate in a well-functioning network, e.g., on a LAN. UDP is used, e.g., for the DNS (Domain Name Server).

UPnP

UPnP (Universal Plug and Play) is a standard for networking various devices on home networks. It ensures that computers, televisions, multimedia equipment and household appliances can be automatically detected by each other without the user having to spend a lot of time configuring settings.

V

Voice Mailbox

The voice mailbox functions like an answering machine. Depending on the configuration, it takes incoming calls and saves recorded messages as WAVE files on the USB memory stick or on the SD card on the PBX.

VoIP

In Internet telephony (VoIP, Voice over Internet Protocol), an Internet connection (for example, DSL) is used for telephoning instead of an analogue or ISDN line. In this case, digital voice data is sent as IP packets from one telephone to another. This functions the same way as the transmission of a webpage over the Internet.

The transmission quality and the reliability of Voice over IP depends to a great extent on the quality of the Internet connection used.

VoIP Account

To receive the necessary access data required for VoIP calls, accounts must first be configured up with one or more VoIP providers. For this purpose, you need to register your name and address with a provider via their web site. Finally, one or more telephone numbers accessible from the public switched network and the Internet as well as an account with a user name and password are allocated. Most of the time, it only takes a few minutes to configure the registered connection which can then be used almost immediately.

VoIP Provider

A VoIP provider is an internet service provider offering internet telephony (VoIP, Voice over Internet Protocol).

There are already numerous providers which issue each customer their own telephone number, which can be called not only over the Internet but also via a public switched network. Depending on the provider used and the number called, these types of telephone connections are extremely reasonable if not free of charge.

Some providers give the impression that Internet telephony is totally free of charge. However, it is important to research the actual costs incurred by taking the tariff tables of the respective provider. As the connection to a public switched network is established over a gateway, the

location of the gateway may affect any charges associated with the call. This applies especially to international calls that may be more expensive than simple calls on a public switched network if the gateway is located domestically.

VPN

A VPN (Virtual Private Network) connects remote or neighboring networks (LAN) to the internal network using what is called a VPN tunnel. The tunnel functions basically as a channel in which embedded data is transported from one network to the other.

W

Wake-up Functions

To be reminded of one-time or recurring appointments, every user can configure different wake-up times for his telephone.

WAN

A public network, e.g., the Internet, is also called a WAN (Wide Area Network).

Wideband Sound Quality (G.722)

In the field of telephony, this describes a higher level of speech quality. This level of speech quality is achieved through the speech codec G.722, which uses a broader frequency spectrum from 100 to 7000 Hz but only requires 64 kbps of bandwidth. In conventional PSNT telephony, only a frequency spectrum of 300 to 3400 Hz is used; this also uses 64 kbps.

The best possible sound quality depends on the end device used.

X

X.31

Using X.31 on ISDN, for example, electronic cash reading devices can be operated on the internal S_0 port. The data are mainly exchanged with the remote station over the D-channel (X.25), and the B-channels remain available for telephone calls and faxes. In most cases, this service must be enabled by the network provider beforehand.

Abbreviations

3PTY	3-Party
AOCD	Advice Of Charge During Call
AOCE	Advice Of Charge End of Call
APIPA	Automatic Private IP Addressing
CCBS	Completion of Calls to Busy Subscriber
CCNR	Completion of Calls on No Reply
CD	Call Deflection
CD (PR)	Call Deflection (Partial Rerouting)
CF	Call Forwarding
CFB	Call Forwarding on Busy
CFNR	Call Forwarding on No Reply
CFU	Call Forwarding Unconditional
CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction
CNG	Comfort Noise Generation
CNIP	Calling Name Identification Presentation
CNIR	Calling Name Identification Restriction
COLP	Connected Line Identification Presentation
COLR	Connected Line Identification Restriction
CTI	Computer Telephony Integration
CW	Call Waiting
DDI	Direct Dialling In
DECT	Digital Enhanced Cordless Telecommunications

DHCP	Dynamic Host Configuration Protocol
DiffServ	Differentiated Services Flag
DNS	Domain Name Service
DSP	Digital Signal Processor
DTMF	Dual Tone Multi Frequency
ECT	Explicit Call Transfer
GSM	Global System for Mobile communication
IP	Internet Protocol
IPUI	International Portable User Identity
ISDN	Integrated Services Digital Network
LAN	Local Area Network
LCD	Liquid Crystal Display
LCR	Least Cost Routing
LED	Light Emitting Diode
MAC	Media Access Control
MSN	Multiple Subscriber Number
NAT	Network Address Translation
NTBA	Network Termination Basis Access
NTP	Network Time Protocol
PBX	Private Branch Exchange
PIN	Personal Identification Number
PoE	Power over Ethernet
POTS	Plain Old Telephone Service
PTMP	Point-to-Multipoint
PTP	Point-to-Point
RPN	Radio Fixed Part Number

RSS	Really Simple Syndication
RTP	Real-Time Transport Protocol
SD	Secure Digital
SDHC	Secure Digital High Capacity
SIP	Session Initiation Protocol
SIPS	Session Initiation Protocol Secure
SMS	Short Message Service
SMTP	Simple Mail Transfer Protocol
SRTP	Secure Real-Time Transport Protocol
STUN	Simple Transversal of UDP over NATs
TAPI	Telephone Application Programming Interface
TCP	Transmission Control Protocol
UDP	User Datagram Protocol
UPnP	Universal Plug and Play
USB	Universal Serial Bus
UTC	Coordinated Universal Time
VLAN	Virtual Local Area Network
VoIP	Voice over Internet Protocol
VPN	Virtual Private Network
WAN	Wide Area Network
XML	Extensible Markup Language
XSS	Cross-Site Scripting

Index

Numerics

3-party call (conference call), initiating 119

A

abbreviations 583

access authorization 476

account
- authorization ID 429
- connection type 429
- creating 424
- deleting 434
- extensions 432
- multiple subscriber numbers 431
- password 427
- switching usage on/off 425
- user name 427

account debit
- call allowance account 315
- time account 315

account number 426

account type 308

active communication partner, changing (splitting) 110

admin PIN
- configuring 477

administrator
- access authorization 476
- configuration manager, opening ...79

amplification
- CLIP information 382

analog connection 360
- flash time 363
- name 360
- telephone numbers 361
- telephone numbers (overview) 362

analog port, external 47
- network provider, connecting 49

analog port, internal
- cable, installing 55
- end devices, connecting 53
- end devices, suitable 53

announcement (InterCom) 245, 567

announcement (music on hold) 268, 570
- deleting 274
- listening to 274
- record 272
- short operation instructions 554
- switching on/off 274

announcement (voice mailbox)
- deleting 152
- listening to 152
- recording 152
- saving in PBX from PC 152, 154
- saving on PC 152
- selecting 152

answering machine 145

APIPA 337, 557

assembling 38

assignment
- call channels 495

Auerswald Fax (printer driver) 174

authorization
- call forwarding (ext. no.) 202
- call parking 209
- call pickup 290
- call record, deleting 144
- configuration switchover 228
- InterCom 246
- MSN/DDI call forwarding 202
- PBX control 481
- pickup 289

private exchange line access without PIN 293
transfer (external to external) 485

authorization ID
VoIP account 429

authorization levels 476

automatic cleanup
fax box 171
voice mailbox 161

automatic external line access (direct exchange access) 482

automatic external line switching (direct exchange access) 482

automatic line connection (direct exchange access) 482

automatically configuration switchover 231

B

baby call 187, 557
short operation instructions 552
switching on/off 187

backup
configuration data 505

B-channel 557

billing factor 142

boss/secretary function 189, 558
configuration 189

bus variants
at internal S_0 port 58

business calls
functions 292

Busy on Busy 190, 558
switching on/off 190

busy signal
callback, deleting 105
external callback, initiating 104
internal callback, initiating 103
priority call (do-not-disturb) 108
reservation of exchange line, initiating 106
terminating call for query call 108

busy tone
analog connection 384
at end of call 469

busy tone detection
call start 373
end of call (incoming) 375
end of call (outgoing) 377

C

cable, installing
at internal analog port 55
at internal S_0 port 61
at internal U_{P0} port 64

calendar 463
holidays, deleting 82

call
accept 96
call waiting, accepting 98, 99
call waiting, rejecting 97
hands-free calling 567
loudspeaker listening 569
subscriber, changing 110
third communication partner, transferring 117
transfer 114, 579
transferring from query call 117
transferring without announcement 116

call allowance account 308, 579
account debit 315
account type 308
change during transfer 316
credit, configuring 311
maximum credit 314

call data 128, 558
deleting 135
partial telephone number privacy 139
quantity 128, 558
short operation instructions 552
to be recorded 138

call data base
wake-up call 328

call data list 122, 128, 558
bill type 131
charges 132
columns 129
connection no. 132
contents 129
CTI 135
date 130
deleting 135
direction 131
display 136
duration 132
exporting 134
ext. subscribers 130
external name 130
external partner 130
info 132
navigation 129
opening 128
soft call 135
time 130
type of billing 131

call data memory 128, 558
overwriting 137
special dial tone 137

call data set 128

call deblocker (incoming) 191, 558
creating 192
overview 193
switching on/off 191

call deblocker (outgoing) 194, 559
creating 195
overview 196
subscribers 194

call deblockers, deleting 82

call differentiation 470

call distribution 448
fax function 452
fax switch 452
on subscribers 448
overview 453
short operation instructions 552

call distribution groups 448

call distribution, creating 448
analog connection 450
PTMP 450
via configuration manager 449
via telephone 450

call diversion (call forwarding) .. 197, 559

call forwarding 197, 559
external numbers 198
kinds 197
MSN/DDI 198
overview (external numbers) 206
overview (MSN/DDI) 206
use of any call channels 204
variants 197
via network provider 203
via PBX 203

call forwarding (ext. no.)
authorization on/off 202
delay time 205
routing via exception telephone numbers 319
switching on/off 198

call frequency (ringer frequency)
analog connection 385
analog subscribers 475

call parking 207, 559
authorization, switching on/off 209
call, putting on hold 207
call, taking a 208
hold time 211
internal base telephone number .209
second call, taking a 208
sequence 207
short operation instructions 549

call phase
music on hold 276

call pickup
executing 291
short operation instructions 550
switching on/off 290

call priority switch (emergency call) 454, 564

call restrictor (incoming) 212, 559
creating 213
overview 214
switching on/off 212

call restrictor (outgoing) 215, 559
creating 216
overview 217
subscriber 215

call restrictors, deleting 82

call start
busy tone detection 373
delay time after digit dialled 371
pound sign transmission 372

call take-over 560

call through 218, 560
call assignment 221
configuring 218
exchange line settings 220
LCR 219
maximum call duration 219
sequence 218
short operation instructions 549
users, creating 221

call tone
analog connection 384

call unit
costs 141
price 141

call waiting 97, 223, 560
accepting, call waiting 98, 99
call waiting, rejecting 97
options 97
short operation instructions 549
switching on/off 223

call waiting calls 97

call, end
during conference call 121

call, incoming 96

call, initiate 100

call, initiating
on direct exchange line access .. 102
short operation instructions 549
via a specific VoIP account 303
via targeted exchange line access 302
with number presentation suppression 101

call, terminating
during query call 111

callback
deleting on busy 105
option for external callers 484
short operation instructions 549

callback (external)
initiating on busy 104
initiating on no response 107

callback (internal)
initiating on busy 103
initiating on no response 106

callback on busy 560
option for external callers 486

callback on no reply 560
option for external callers 487
callback option
exchange line transfer 242
calls, outgoing 100
options 100
CAPI dial-in numbers 528
casing, opening 39
CCBS (callback on busy) 104
deleting 105
option for external callers 486
CCNR (callback on no response) 107
CE symbol .....see insert "Conditions of Guarantee, Information Service"
central office 560
charge burden
exchange line transfer 243
charge information 142
charges
short operation instructions 552
CLIP
restriction time 307
sub-version 381
telephone number display 305, 578
texts 224
texts, configuring 224
CLIP (number presentation) 283, 571
CLIP information
(extended) switching on/off 306
amplification 382
analog connection 381
switching on/off 305
type 381
CLIR (number presentation suppression) 283
always 283
CLIR (telephone number display suppression)
per call 101
codec 561
configuring for the provider 417
COLP
number presentation 283, 571
comfort noise generation 560
COMfortel DECT 900/900C 438
function key 441
function key, copying 442
internal telephone numbers 351
log-in mode 438
mobile handsets, logoff 440
telephone book selection, copying 444
telephone numbers from PBX telephone book 444
telephone numbers, assigning ...439
commissioning 71
ISDN system telephones 74
standard ISDN end devices 73
standard VoIP end devices 74
VoIP system telephones 74
Committee function 143
Conditions of Guarantee..... see insert "Conditions of Guarantee, Information Service"
conference
both conference call partners, connecting 121
options 119
conference call 119, 561
end completely 121
initiating 119
short operation instructions 550

configuration
alternate connection options 513
copying 229
copying complete 230
copying parts 230
creating 229
deleting 82
external 513
external, via an external S_0 port .517
external, via dial-up connection ..517
external, via the Internet 514
ISDN system telephones via an external S_0 port 521
ISDN system telephones, via the PBX 519
reset 512
switching times, copying 233
via dial-up connection 515
via internal S_0 port 515

configuration data
backup 505
backup variants 505
loading into PBX automatically ...508
loading onto a data storage medium automatically 508
on PC 509
recovery 505
recovery variants 505
restoration point, inserting 510
restoring from restoration point ...511
save in PBX 506

configuration manager 77, 561
display 84
entry fields 81
forced logout 89
language 85
legibility 84
log out 81
max. number of users 88
minimum requirements, PC 77
navigation 80
open as administrator 79
open as sub-administrator 78
open as user 78
opening 77
operating instructions 80
selection fields 81
views 86
web server port 88

configuration port for system telephones 528

configuration switching times
overview 234

configuration switchover 226, 561
authorization, switching on/off 228
automatically 231
manual 226
short operation instructions 553
switching times 232

configuration wizard 87

configuration-dependent functions ... 226

connection options 513

connection type
configuring for the ISDN connection 387
for the VoIP account, configuring 429

connections 40

contents
call data set 128

continuous tone detection 378

control commands 383

conversion, incoming VoIP telephone numbers 422
copyright 34
cost per call unit 141
country prefix 343
country settings, applying 362
country, configuring 489
country-specific settings 362
cover panel, removing 39
credit
call allowance account 311
time account 309
Cross-Site Scripting (XSS) 561
switching on/off 347
currency name 140

D

date (PBX time) 457
D-channel 562
D-channel log 544
DDI 562
ISDN connection 391
VoIP account 432
dealer access numbers 529
dealer data 494
Declaration of Conformity ....see insert "Conditions of Guarantee, Information Service"
DECT
function key 441
function key, copying 442
log-in mode 438
mobile handsets, assigning telephone numbers 439
mobile handsets, logoff 440
system telephones 438
telephone book selection, copying 444
telephone numbers for base 351
default provider 402
default settings
analog connection 362
delay time
after last digit dialled 371
CF on no reply (ext. no.) 205
MSN/DDI-CF on no reply 205
delete 82
deleting
call data 135
single call record 143
single call record (authorization) 144
VoIP account 434
VoIP provider 423
desktop device 38
DHCP 562
DHCP client
short operation instructions 553
DHCP client, switching on/off 337
dial
on direct exchange line access .. 102
dial tone
analog connection 384
internal 468
waiting for 366
dialling
out of a call (query call) 109
dial-up connection 530
on Windows 7 533
on Windows Vista 532
on Windows XP 530
DiffServ 562
switching on/off 401
direct exchange access 482

direct external connection (direct exchange access) 482
direct external line access (direct exchange access) 482
direction indicators (exchange line access number) 483
directory structure
memory 146
display
configuration manager 84
DNS 563
DNS server, configuring 345
domain 405
do-not-disturb 235, 563
ignore (priority call) 108
short operation instructions 553
switching on/off 235
driver Auerswald Fax 174
DTMF code 'D' 379
duration
external calls, transferred 486
DynDNS 563

E

echo cancellation 415, 563
echo compensation 563
ECM (error correction mode) 176
economy mode 237, 564
switching on/off 237
ejecting
storage medium 538
e-mail 181, 563
sending 181
SMTP server 182
emergency call 454
call priority switch 454, 564
telephone numbers 455
en-bloc dialling 413
end device 564
end devices, connecting
to internal analog port 53
to internal S_0 port 57
to internal U_{P0} port 63
to the Ethernet Port 67
end of call
busy tone detection (incoming) .. 375
busy tone detection (outgoing) ... 377
continuous tone 378
DTMF code D 379
loop current detection 378
polarity reversal 380
energy savings function (economy mode) 237, 564
switching on/off 237
entries
creating 82
deleting 82
Environment .....see insert "Conditions of Guarantee, Information Service"
environmental notice 35
Ethernet 564
data stream 546
Ethernet port 47
end devices, connecting 67
end devices, suitable 67
Internet, connecting 50
network provider, connecting 50
exception telephone numbers
entering 317
exporting 321
importing 320
routing, switching on/off 319
exception telephones numbers (VoIP/ GSM routing) 317
exchange line access 482

exchange line access number 483
VoIP 426
exchange line access, targeted initiating 302
exchange line authorization 238, 564
configuring 238
exchange line reservation 564
short operation instructions 549
exchange line settings
call through 220
exchange line transfer 241
exchange line switching (exchange line access) 482
exchange line transfer 240, 565
callback option 242
charge burden 243
configuring 240
exchange line settings 241
sequence 240
time limit 243
expansions, PBX 539
functions 539
purchasing 539
via configuration manager 540
via Internet 541
expert view 86
export
call data list 134
exception telephone numbers 321
holidays 465
telephone book 127
VoIP provider 423
extension numbers
ISDN connection 391
VoIP account 432
external 565
external access 482
external analog port 47
network provider, connecting 49
external connection (exchange line access) 482
external connection, direct (direct exchange access) 482
external line access
automatic (direct exchange access) 482
direct (direct exchange access) .482
quick (direct exchange access) ..482
external line access (exchange line access) 482
external line switching, automatic (direct exchange access) 482
external PIN 297, 524
external private branch exchange 565
external S_0 port 47
network provider, connecting 49
S_0 bus monitoring 388

F

factory settings 535
restoring 535
fallback 565

fax box 145, 168, 565
assigning 169
Auerswald Fax printer driver 174
automatic cleanup 171
creating 168
ECM (error correction mode) 176
e-mail 181, 563
e-mail sending 181
fax ID 170
fax transfer 173, 566
memory 146
outgoing mail server 182
PIN for fax transfer 173
querying 171
RSS feed, assigning 178
RSS feed, initiating 177
RSS feed, subscribing 180
switching on/off 169
transferring a fax 174

fax function 452

fax ID 170

fax over IP 416

fax switch 452

fax transfer 173, 566
PIN 173

firmware
alternate 504

firmware update 500, 566
alternate firmware, starting 504
defective 502
instant 501
manual 500
server 502
variants 500

firmware version (PBX data) 494

flash time
analog connection 363
short operation instructions 553

forced logout
configuration manager 89

function key on the DECT mobile handset 441

functions
configuration-dependent 226

G

gateway 566
configure 341
short operation instructions 553

global call
ISDN connection 391

global call number
VoIP account 432

glossary 556

group overview 358

GSM gateway 446
connection configuration 446
ISDN connection 446
telephone numbers 446

H

handsfree (InterCom) 245, 567

hands-free calling 567

headset 567

help 90
navigation 90
opening 90
printing 94
search 93

hold time
call parking 211
start of call 375
until audio connection 375

holidays 463
adding from holiday lists 463
creating 463
editing 463
export 465
importing 465
overview 466
home page (portal page) 85
hook flash timing 484
HTTP proxy 567
configuring 346

I

ID numbers
overview 229
impedance setting 364
import
exception telephone numbers 320
holidays 465
LCR data 257
telephone book 126
VoIP provider 403
important information 18
info call, switching on/off 166
information 18
installation 36
printer 279
TAPI driver 249
installation site 37
intended use 22
InterCom announcement/
handsfree 245, 567
executing 245
procedure 245
short operation instructions 550
InterCom permission 246
internal 567
internal analog port
cable, installing 55
end devices, connecting 53
end devices, suitable 53
internal base telephone numbers
call parking 209
internal dial tone 468
internal phone numbers 348
types 348
internal S_0 port
bus variants 58
cable, installing 61
internal S_0 port
end devices, connecting 57
internal S_0 port
suitable end devices 57
internal U_{P0} port
cable, installing 64
end devices, connecting 63
international model
configuring country 489
internet access 345
Internet telephony, configuring 396
IP address 568
configure 338
permanent IP address 337
short operation instructions 553
IP telephony, internal 397
ISDN connection 387
connection type 387
extensions 391
multiple subscriber numbers 390
name 389
telephone numbers 393

J

jitter buffer 568
for the provider, configuring 414

L

LAN 568

language
configuration manager 85

language files
voice mailbox 167

LAN-TAPI 247, 569
function check 250
functions 247
password 248
port for TAPI server 248
subscribers 247
TAPI server, restarting 250

LCR 254, 569
configuration data from PBX, reading 264
configuration data, importing 257
configuring 254
data backup 264
ext. port, selecting 255
for call through calls 219
LCR tables 261
networks, creating 259
networks, creating automatically .258
networks, deleting 82
prefixes, creating 260
prefixes, deleting 82
providers, creating 257
providers, deleting 82
sequence 254
subscribers 256
tables, deleting 82
tariff information 261

least cost routing (LCR) 254, 569

LED 569
display field 492

legibility
configuration manager 84

line access code
detect and wait 369
transmit automatically 368

line connection
dial tone 366
line access code automatic 368
line access code detection 369
loop current detection 370

line connection (exchange line access) 482

line connection, automatic (direct exchange access) 482

line group 569
creating 356
members 358
subscriber assignment 358

line impedance 364

line polarity reversal
end of call 380
start of call 374

list entries
creating 82
deleting 82

local area code 344

local IP address 523

log-in mode
COMfortel DECT 900 Base 438
DECT system telephone 438

log-in tracking 545

logs 544
D-channel 544
log-in tracking 545
network data stream 546
PBX Image 546

loop current detection
end of call 378
line connection 370

loudspeaker listening 569

M

MAC address 570
PBX data 494

maintenance 491
manual firmware update 500
memory
directory structure 146
fax function 146
voice mail function 146
memory, overwriting automatically ...137
messages
remote access 164
minimum requirements, PC 77
mobile handset
function key 441
function key, copying 442
telephone book selection, copying 444
module, plugging in 46
mounting on the wall 38
MSN 570
ISDN connection 390
VoIP account 431
MSN/DDI call forwarding
authorization on/off 202
delay time 205
routing via exception telephone numbers 319
switching on/off 198
multi-path call forwarding 265, 570
short operation instructions 554
multiple subscriber numbers
ISDN connection 390
VoIP account 431
music on hold 268, 570
call phase 276
deleting 270
listening to 274
saving from PC into PBX 268
saving on PC 269
short operation instructions 554
switching announcement On/Off 274
volume 269
volume during announcement 270
music on hold announcement ... 268, 570
delay time 275
deleting 274
record 272
saving from PC into PBX 271
saving on PC 272
volume 273

N

name
analog connection 360
ISDN connection 389
NAT 571
NAT Keep Alive 410
NAT traversal
VoIP provider 407
navigation
call data list 129
configuration manager 80
telephone book 124
network 571
network data stream, logging 546
network memory 277
access via FTP 278
configuring 277
network printer 279
network printer, adding 279
under Mac OS X 281
under SUSE Linux 281
under Windows XP 280

network provider, connecting
at external S_0 port 49
to external analog port 49
to the Ethernet port 50
no response
external callback, initiating 107
internal callback, initiating 106
notes
port 355
subscribers 355
NTP 571
number presentation 283, 571
always suppress 283
VoIP provider 419
number presentation suppression
always 283

O

online name search 285, 572
advanced search 286
exact/approximate 286
more information 285
switching on/off 285
types 285
update 287
operating instructions
configuration manager 80
outbound proxy 409
outgoing mail server (SMTP) 182
overview
call channel assignment 495
call channel status 495
call deblocker (outgoing) 196
call deblockers (incoming) 193
call distribution 453
call restrictors (incoming) 214
call restrictors (outgoing) 217
CF status (external numbers) 206
CF status (MSN/DDI) 206
COMpact 2a/b module 42
COMpact ISDN module 43
COMpact S_0 module 42
configuration switching times 234
connections 40
device components 40
external telephone numbers 362
groups 358
holidays 466
ID numbers 229
internal telephone numbers 359
internal VoIP subscribers, registration 400
line groups 358
PBX data 494
ports 494
status internal VoIP subscribers . 400
status VoIP accounts 435
subscribers 356
switching times 234
telephone book 127
telephone number plan 359
wake-up functions 325
wake-up times 325
overwriting automatically
call data memory 137

P

partial telephone number privacy 139
password
VoIP account 427
pause
between wake-up calls 327

PBX
description 489
name 489
PBX base number
ISDN connection 391
VoIP account 432
PBX control
authorization, switching on/off 481
PBX data 489
overview 494
PBX description 489
PBX name 489
PBX date
via telephone 459
PBX identification 337
PBX image, creating 546
PBX time 457
accept from PC 458
after each ISDN call 460
automatic after each ISDN call ...460
automatic via ISDN 461
automatic via network 460
set manually 457
short operation instructions 554
via automatic ISDN call 461
via ISDN 460, 461
via telephone 459
via the network 460
PBX, turning on 71
PC
connecting 72
minimum requirements 77
permanent IP address 337
personal call
authorization, switching on/off 293
functions 292
without PIN entry 293
personal calls 292
personalized exchange line access 292, 573
pickup 288, 572
authorization, switching on/off 289
during a call 289
executing 288
short operation instructions 550
PIN 572
administrator 477
authorization levels 476
change (short operation instructions) 554
changing 480
external 297, 524
fax transfer 173
remote access 165
sub-administrator 478
user 478
pin assignment of Western sockets ...44
PoE (Power over Ethernet) 572
point-to-multipoint connection 573
point-to-point connection 573
port 573
configuration port for system telephones 528
notes 355
web server 88
portal page 85
call channel status 495
soft call 301
ports
overview 494
POTS 573
pound sign transmission 372
power down
performing 537
Power over Ethernet (PoE) 572
power plug 71
powering down 537

PPP external 517
PPP internal 515
preferred exchange line (number presentation) 283
price per call unit 141
printer 69
connecting 69
installing 279
printer driver Auerswald Fax 174
priority call 573
initiate 108
private branch exchange, external
configuring 398
private exchange line access 292, 573
authorization, switching on/off 293
initiating 292
initiating without PIN 293
protection
authorization levels 476

Q

Quality of Service (DiffServ) 401
quantity
call data 128, 558
query
fax box 171
short operation instructions 550
voice mailbox 162
query call 109, 574
both communication partners, connecting 112
call, terminating 111
hook flash timing 484
initiating 109
number calls is busy/no response 108
options 110
to third subscriber 112
query call, terminating 108
quick external line access (direct exchange access) 482
quick setup 87

R

reboot (restart) 496
delayed 497
immediately 497
performing 497
variants 496
via SD card 499
reception amplification 365
recording
calls 138
recording time
per call 159
voice mailbox 160
voice mailboxes, all 160
recording, switching on/off 158
recovery
configuration data 505
registrar 406
registration status VoIP subscribers 400
registration time 407
rejecting
call waiting 97
release
for remote configuration 534
PBX expansions 539
release codes 194, 559
remote access
PIN 165
voice mailbox 164

remote configuration 513
ISDN system telephones via an external S_0 port 521
PBX, releasing 534
via an external S_0 port 517
via dial-up connection 517
via the Internet 514
remote IP address 523
remote switching number 299, 526
for system telephones 527
reservation of exchange line
initiating on busy 106
reset
configuration 512
restart 496
automatic 497
delayed 497
immediately 497
performing 497
variants 496
via SD card 499
restoration point
inserting 510
restoring configuration data 511
restricted numbers 215, 559
restriction
admin PIN 477
sub-admin PIN 478
user PIN 478
restrictions 476
ring signal
analog connection 385
ringer frequency
analog connection 385
analog subscribers 475
ringer rhythms 470
analog connection 471
call differentiation 470
display 470
for internal calls 471
point-to-multipoint connection 472
point-to-point connection 474
Robinson numbers 212, 559
room monitoring 295, 574
carrying out 295
short operation instructions 554
switching off 297
switching on 295
via external telephone 296
via internal telephone 296
router 574
RSS feed 177, 575
assigning 178
configuring 177
initiating 177
subscribing 180

S

S_0 bus monitoring 388
S_0 port 575
S_0 port, external 47
network provider, connecting 49
S_0 port, internal
bus variants 58
cable, installing 61
end devices, connecting 57
suitable end devices 57
safety information 19
SD memory card 69
ejecting 538
SD memory expansion board
inserting 70
secretary function 189, 558
configuration 189

senior call (baby call) 187, 557
switching, on/off 187
serial number (PBX data) 494
server 575
firmware update 502
service 491
service data 544
Service .....see insert "Conditions of Guarantee, Information Service"
settings
country-specific 362
short-code authorization 300, 575
short-code dialling number authority
switching on/off 300
short-code numbers 123, 576
single call record
deleting 143
single call record, deleting
authorization 144
SIP 576
SIP port 412, 576
SIP session timer 412
SIP transport protocol 411
SIP trunking 576
SIP-DDI 576
SMTP server 182
soft call 301, 576
call data list 135
telephone book 124
telephone book overview 127
telephone number, dialling 301
software
extensions, purchasing 539
special dial tone
call data memory 137
special interest tone
analog connection 384
splitting 110, 576
active call, terminating 111
active communication partner, transferring 117
both communication partners, connecting 112
from query call 110
initiating from conference call 120
short operation instructions 550
standard view 86
start of call
hold time until audio connection . 375
polarity reversal 374
status
storage medium 538
status displays 492
configuration manager 494
LEDs 492
status overview
call channels 495
VoIP account 435
VoIP subscribers, internal 400
storage media 69
connecting 69
ejecting 538
STUN 577
STUN server 399
VoIP provider 407
sub-admin PIN
configuring 478
sub-administrator
access authorization 476
configuration manager, opening ... 78
subnet mask 577
configure 340
short operation instructions 555

subscribers
analog 349
billing factor 142
DECT base station 351
ISDN 351
notes 355
overview 356
VoIP 353

subscribers, changing (splitting) 110

sub-system operation
VoIP provider 405

suppression, of telephone number display
per call 101

switching times
configuration switchover 232
copying 233
deleting 82
overview 234
wake-up announcement 333

system time (PBX time) 457

T

T.38 416

table entries
creating 82
deleting 82

TAPI 577

TAPI driver (TSP) 249

TAPI server
network port 248
password 248
restart 250

targeted exchange line access ..302, 577

TCP 578

technical data 30

telephone book 122, 123, 578
CTI 124
entries, creating 124
entries, deleting 82
export 127
import 126
navigation 124
open 123
overview 127
soft call 124
telephone number, dialling 124

telephone number display 305, 578
CLIP info 305
CLIP restriction time 307
extended CLIP info 306
suppressing per call 101

telephone number display suppression
per call 101

telephone number plan 348
overview 359

telephone number suppression
always 283

telephone numbers
analog connection 361
analog subscribers 349
DECT base station 351
DECT mobile handsets 439
deleting 82
emergency call 455
internal 348
ISDN subscribers 351
line group 356
VoIP subscribers 353

telephones
types 28

telephones, connecting
to internal analog port 53
to internal S_0 port 57
to internal U_{P0} port 63
to the Ethernet Port 67

telephoning
3-party call (conference call), initiating 119
call waiting calls 97
call, accept 96
call, incoming 96
calls, outgoing 100
during conference call 119
during query call 110
terminating resistor 578
time (PBX time) 457
time account 308, 579
account debit 315
account type 308
change during transfer 316
credit 309
maximum credit 311
T-Net functions 577
tones 467
analog connection 384
presentation 468
transfer 114, 579
authorization (external to external) 485
hook flash timing 484
settings 484
short operation instructions 551
transferring
from query call 117
in waiting loop, placing 116
options 114
to third communication partner 117
to third party 117
with announcement 115
without announcement 116
transferring a fax 174
transferring without announcement 579
transmission amplification 366
TSP (TAPI driver) 249

U

UDP 579
U_{P0} port, interal
cable, installing 64
U_{P0} port, internal
end devices, connecting 63
update
instant 501
manual 500
online name search 287
server 502
upgrade center 539
functions 539
shopping 539
user account 539
UPnP 579
USB host
appropriate devices 69
device, connecting 69
USB memory stick
ejecting 538
user
configuration manager, opening 78
user account
upgrade center 539
user name
administrator 477
sub-administrator 78
user 78
VoIP account 427
user PIN
configuring 478
users
access authorization 476
call through 221
logout 545

V

version, firmware (PBX data) 494

VIP numbers 191, 558

voice mailbox 145, 147, 580
announcement, deleting 152
announcement, listening to 152
announcement, recording 152
announcement, saving in PBX 152, 154
announcement, saving on PC 152
announcement, selecting 152
automatic cleanup 161
configuring 147
creating 148
e-mail 181, 563
e-mail sending 181
info call 166
language files 167
memory 146
outgoing mail server 182
PIN for remote access 165
querying 162
recording time 160
recording time (total) 160
recording time per call 159
recording, switching on/off 158
remote access 164
RSS feed, assigning 178
RSS feed, initiating 177
RSS feed, subscribing 180
short operation instructions 555
switching on/off 148

Voice over IP (VoIP) 394, 580

VoIP
account number 426
account, creating 424
channel use 394
configuring externally 396
configuring internally 397
DiffServ 401
external call sequence 395
Internet service provider 402, 580
overview, telephone numbers 434
private branch exchange, external 398
provider, creating 404
QoS (DiffServ) 401
Quality of Service (DiffServ) 401
STUN server for external private branch exchange 399

VoIP (Voice over IP) 394, 580

VoIP access point
targeted exchange line access number 426

VoIP access point, targeted 303, 578
initiating 303

VoIP account 424, 580
authorization ID 429
connection type 429
creating 424
deleting 434
exchange line access number 426
extensions 432
multiple subscriber numbers 431
password 427
switching usage on/off 425
user name 427

VoIP provider 402, 580
codecs 417
conversion, telephone number 422
creating 404
default provider 402
deleting 423
domain 405

echo cancellation 415
en-bloc dialling 413
exporting 423
fax over IP 416
importing 403
jitter buffer 414
NAT Keep Alive 410
NAT traversal 407
number presentation (outgoing) ..419
outbound proxy 409
registrar 406
registration time 407
SIP port 412
SIP session timer 412
SIP transport protocol 411
STUN server 407
sub-system operation 405
T.38 416

VoIP/GSM routing 317
exception telephone numbers, entering 317
exception telephone numbers, exporting 321
exception telephone numbers, importing 320
sequence 317

volume
music on hold 269

VPN 581

W

waiting for dial tone 366

waiting loop 116

waiting time
line connection 367

wake-up announcement
configuration 328
deleting 333
listen to 332
recording 330
saving from PC into PBX 329
saving on PC 331
short operation instructions 555
switching times 333
volume 331

wake-up call
call duration 327
in call data base 328
maximum number 326
on holidays 325
pause, configuring 327

wake-up functions 322, 581
announcement, deleting 333
listening to announcement 332
on holidays 325
overview 325
recording an announcement 330
short operation instructions 555
switching on/off 322

wake-up times
deleting 82
overview 325

wall mounting 38

WAN 581

Warranty .....see insert "Conditions of Guarantee, Information Service"

web portal (portal page) 85

Western sockets, pin assignment 44

wideband sound quality 581

X

X.31 ..... 335, 582
switching on/off 335

XSS
switching on/off 347

XSS (Cross-Site Scripting) 561

Auerswald